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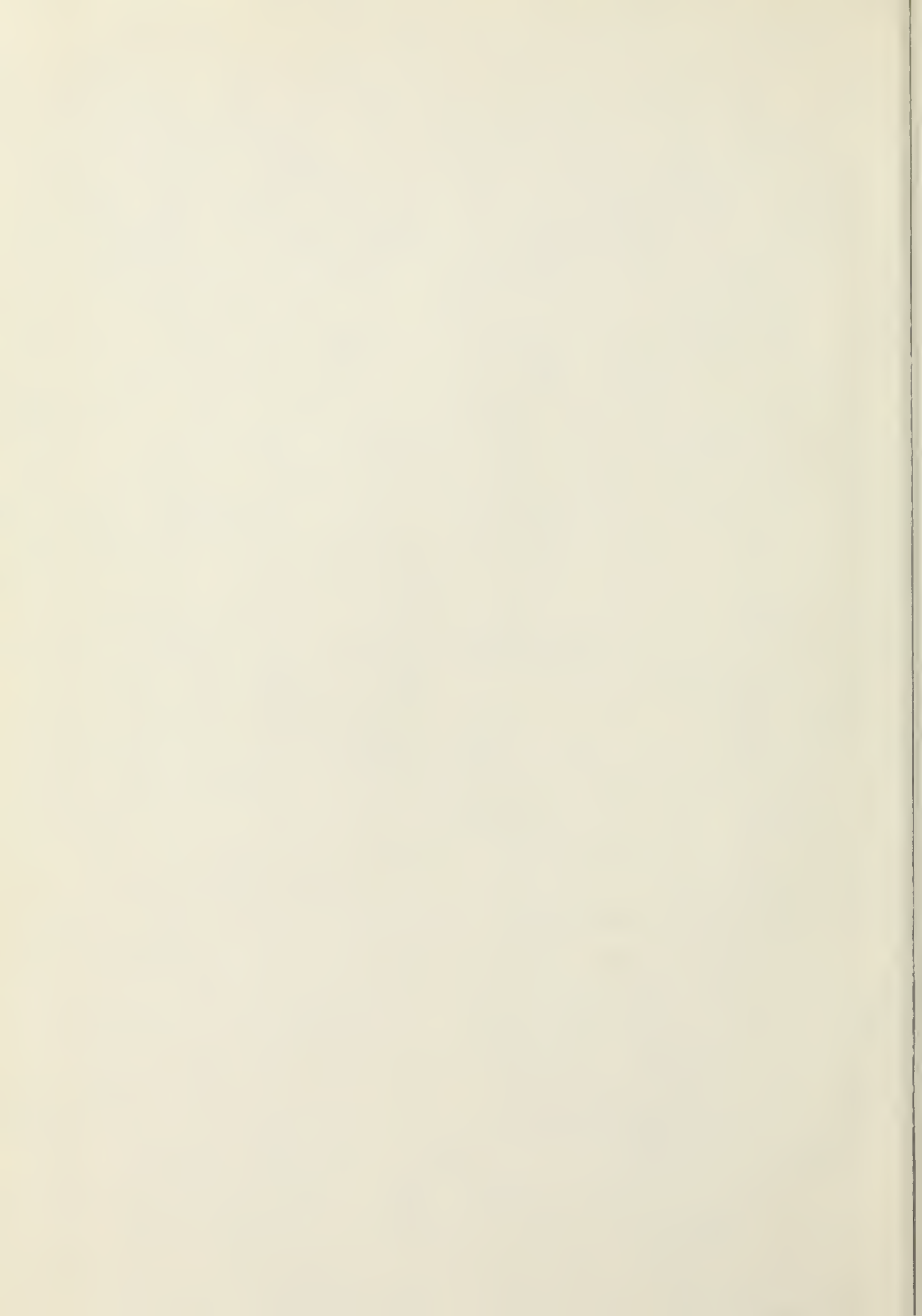


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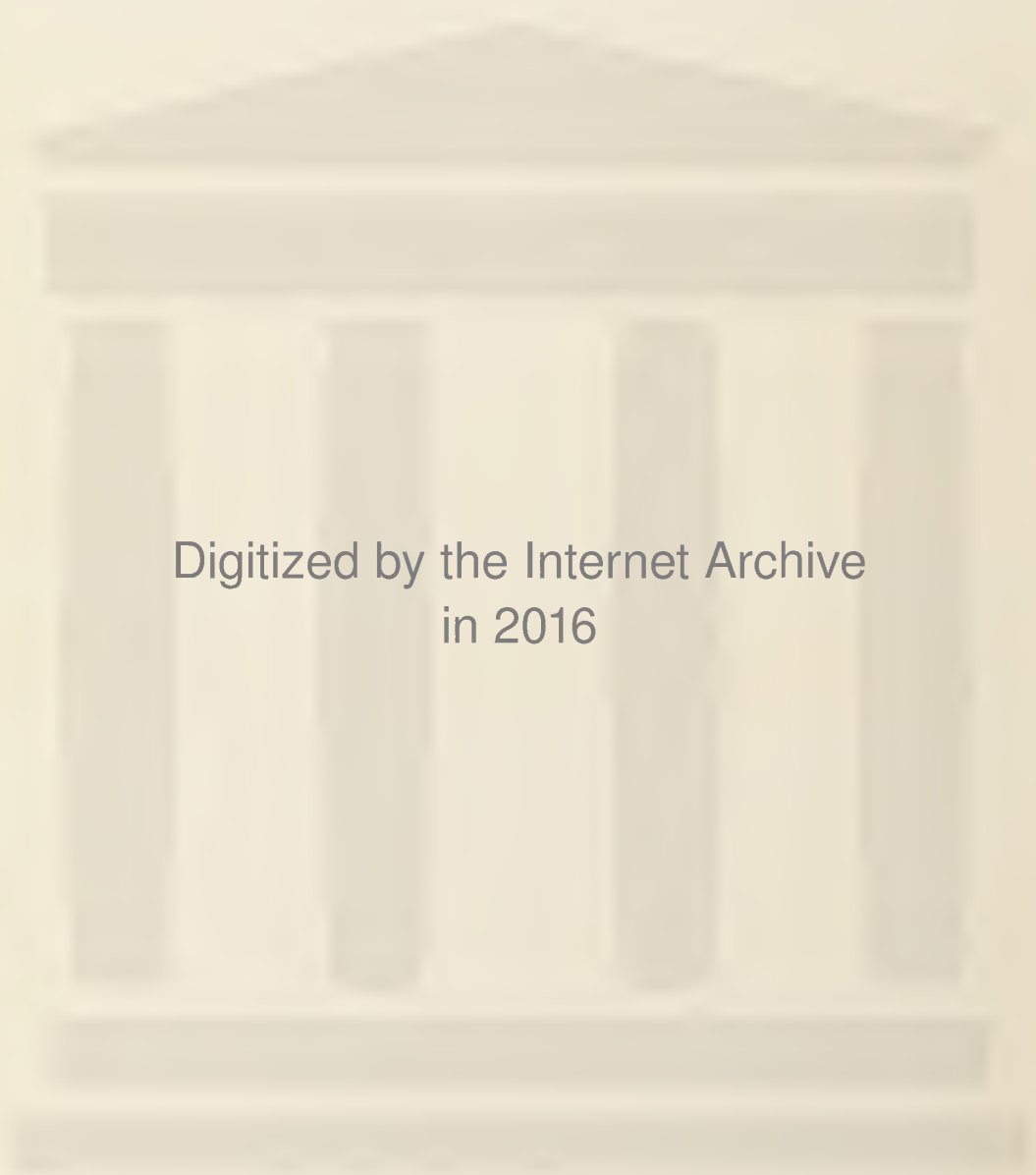
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# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

HISTORY OF HEALTH SPECIALTIES

X-RAY FILM OF THE MONTH

EMERGENCY DEPARTMENT PHYSICIAN

ABSTRACTS, SOUTHERN SOCIETY OF ANATOMISTS

VOLUME 69

JANUARY, 1973

NUMBER 1

**One of the familiar line of**  
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Additional information available  
to the profession on request.



Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counseling.



and a few may need counseling  
*and* the psychotropic action of Valium® (diazepam).

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Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

# Valium® (diazepam)

To help you manage excessive psychic tension

# Pinworm therapy is often a family affair



**Contraindications:** History of hypersensitivity to thiabendazole.

**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.

**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction,

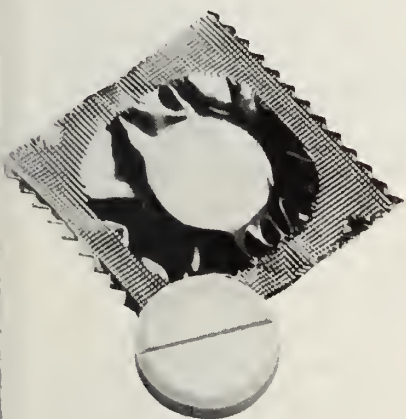
patients should be carefully monitored.

**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live *Ascaris* in the mouth and nose. Hypersensitivity reactions



# A New Dosage Form:

## Chewable Tablets<sup>500 mg</sup> Mintezol<sup>®</sup> (THIABENDAZOLE | MSD)



so easy to take  
everyone in the family  
can keep to the  
regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy. **Supplied:** Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 cc, in bottles of 120 cc.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

### INDICATION | DOSAGE SCHEDULE

MINTEZOL<sup>®</sup> (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.

*The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).*

MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.

The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days.  This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

\*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

# The Journal of The SOUTH CAROLINA Medical Association

JANUARY, 1973—VOL. 69, NO. 1

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

## Contributions of Original Articles

Mailing address—Edw. E. Kimbrough, M.D., Editor. 2709 Laurel Street, Columbia, S. C. 29204.

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

Reprints—Reprints will be made for the author at established rates.





## Sally's back in sew biz! After an arthritic flare-up.

**Important Note:** This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contracted patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Substitute alka capsules for tablets if dyspeptic symptoms occur. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

**Contraindications:** Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

**Precautions:** Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease, systemic edema, stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

**Warnings:** Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent therapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use the smallest effective dosage. Weigh initially unpredictable effects against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias,

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including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug. **Precautions:** The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

**Adverse Reactions:** This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis,

epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy, CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement. (B)98-146-070-G

**Serious side effects do occur. Select patients carefully (particularly the elderly) and follow them closely in line with the drug's precautions, warnings, contraindications and adverse reactions.**

For complete details, including dosage, please see full prescribing information.

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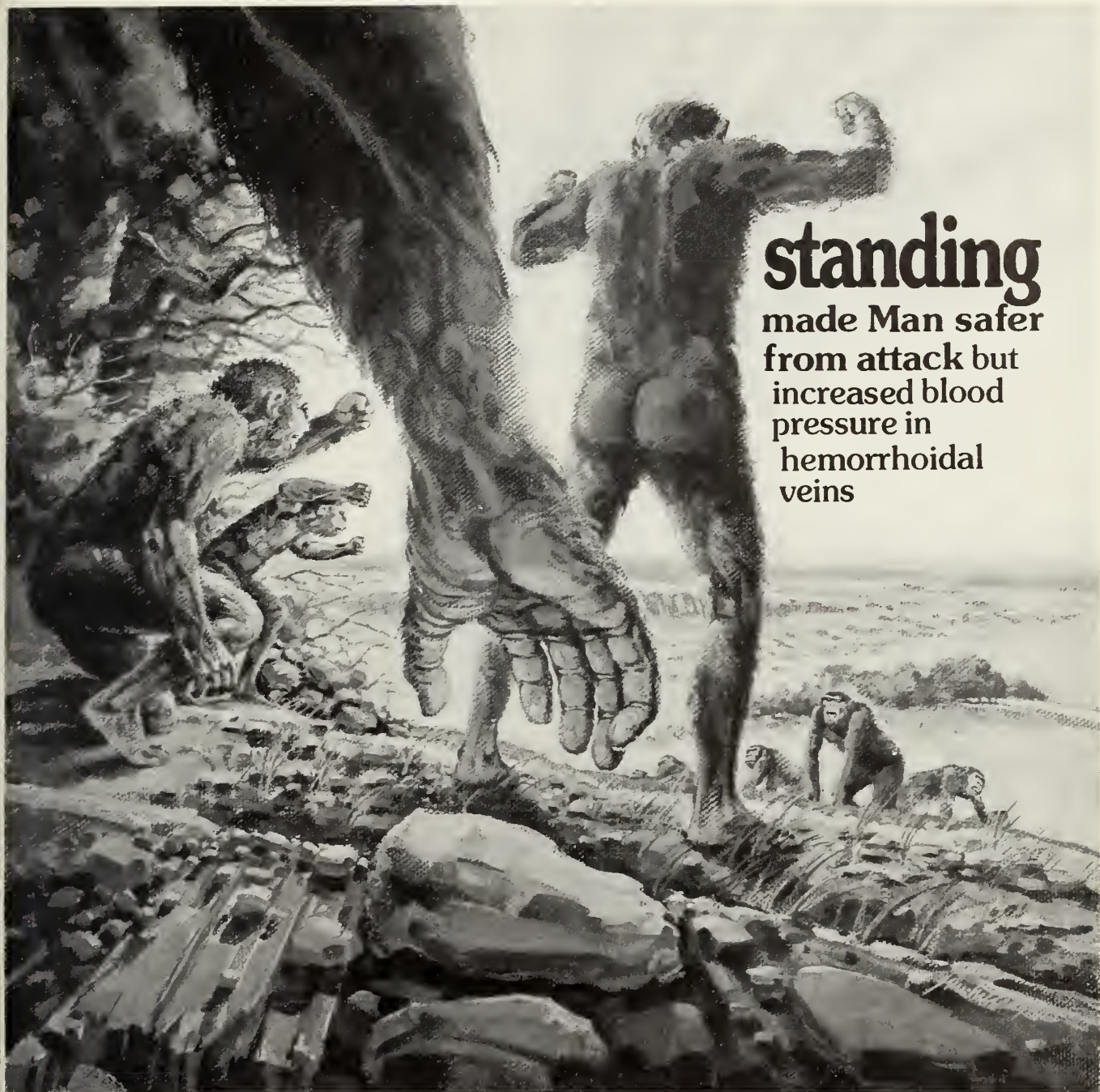
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made Man safer  
from attack but  
increased blood  
pressure in  
hemorrhoidal  
veins

#### Precaution

Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects.

Symptomatic relief should not delay definitive diagnosis or treatment.

#### Dosage and Administration

Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides.

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## to help ease acute symptoms of **Anusol-HC**<sup>®</sup>

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## for long-term patient comfort **Anusol**<sup>®</sup>

Suppositories and Ointment Each suppository or gram of ointment contains the active ingredients of an Anusol-HC suppository minus the hydrocortisone.

**Warner/Chilcott**



Division,  
Warner Lambert Company  
Morris Plains, New Jersey  
07950

ANGP 33

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# Hunger Control VS. Weight Control

---



S. K. Fineberg, M.D.

Clinical Assistant Professor of Medicine,  
New York Medical College.  
Chief, Diabetes and Obesity-Diabetes Clinics,  
Metropolitan Hospital, N.Y.C.  
Director of Medicine,  
Prospect Hospital, Bronx, N.Y.

*The statements by Dr. Fineberg are  
intended as medical information, and do not  
involve endorsement of any product.*

Although effective appetite suppression is available, "...controlling hunger is not a simple solution to the complex problems of obesity."\*

Preludin can lessen hunger. But it should never be used as sole treatment in weight reduction. Fineberg states it well:

"The appropriate and proper use of anorexigenic drugs in an overall program of weight reduction is to relieve the acute symptoms which are invariably produced by a sharply lowered caloric intake."

"Their use should only be as part of an intensive program which includes patient motivation, instructions in diet, good nutrition and a knowledge of the caloric content of foods"

Preludin is indicated in exogenous obesity as a short-term (a few weeks) adjunct in a regimen of weight reduction based on caloric restriction. For full details, please see the Prescribing Information. It is summarized on the adjacent page.

\*Fineberg, S.K.: Presented at Annual Meeting, American Society of Geriatrics, New York City, April 5, 1972.

**Preludin®** phenmetrazine hydrochloride NF



---

# Preludin®

phenmetrazine  
hydrochloride

# Endurets®

prolonged-action  
tablets

---

## Preludin® phenmetrazine hydrochloride NF

**Indications:** Preludin is indicated in exogenous obesity as a short-term (a few weeks) adjunct in a regimen of weight reduction based on caloric restriction.

**Contraindications:** Advanced arteriosclerosis, symptomatic cardiovascular disease, moderate to severe hypertension, hyperthyroidism, known hypersensitivity or idiosyncrasy to sympathomimetic amines, and agitated states. Patients with a history of drug abuse. Do not use with other CNS stimulants or MAO inhibitors. Use within 14 days following the administration of monoamine oxidase inhibitors may result in hypertensive crises.

**Warnings:** Tolerance usually develops within a few weeks. When this occurs, the recommended dosage should not be exceeded in an attempt to increase anorectic effect.

**Drug Dependence:** Tolerance and extreme psychological dependence have occurred. Patients have been known to increase the dosage of drugs of this type to many times the recommended dosage. Abrupt cessation following prolonged high dosage results in extreme fatigue, mental depression, and reversible changes in the sleep EEG. Manifestations of chronic intoxication include severe dermatoses, marked insomnia, irritability, hyperactivity and personality changes. The most severe manifestation is psychosis, often clinically indistinguishable from schizophrenia.

Caution patients on the possibility of impaired ability to operate machinery or drive a motor vehicle or engage in other potentially hazardous activity.

**Usage in Pregnancy:** There have been clinical reports of congenital malformation associated with the use of this compound but a causal relationship has not been proved. Until more information is available, Preludin should not be used by women who are or may become pregnant, particularly in the first trimester, unless the physician feels potential benefits outweigh possible risks.

**Usage in Children:** Not recommended for use in children under 12 years of age.

**Precautions:** Use with caution in patients with mild hypertension. Insulin requirements in diabetes mellitus may be altered in association with anorectic agents and concomitant dietary regimen. Psychological disturbances may occur in some patients on a restrictive diet with or without concomitant use of an anorectic agent.

**Adverse Reactions:** Overstimulation, restlessness, insomnia, anxiety, headache, agitation, flushing, tremor, sweating, dizzi-

ness, dryness of the mouth or unpleasant taste, urticaria, gastrointestinal disturbances, nausea, diarrhea, palpitation, tachycardia, elevation of blood pressure, urinary frequency, dysuria, and changes in libido. Psychotic states at recommended dosage have been reported with related drugs.

**Dosage and Administration:** One 25 mg. tablet b.i.d. or t.i.d. one hour before meals, or one 50 mg. or 75 mg. Endurets prolonged-action tablet taken daily. Not recommended for children under 12 years of age.

**How Supplied:** For b.i.d. or t.i.d. administration, pink, square, scored tablets of 25 mg. in bottles of 100 and 1000.

For once-a-day administration, white, round Endurets prolonged-action tablets of 50 mg. in bottles of 100, and pink, round Endurets prolonged-action tablets of 75 mg. in bottles of 100 and 500.

Distributed by:

Boehringer Ingelheim Ltd.

Elmsford, N.Y. 10523

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For complete details, please see the full prescribing information.

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**CONTRAINDICATIONS:** Hypersensitivity to any of the tetracyclines.

**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.** Usage in pregnancy. (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in premature given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS:** Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

**Renal toxicity:** rise in BUN, apparently dose related (See **WARNINGS**).

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE: Adults**—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

**SUPPLIED:** 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 12/71



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\*Since many strains are known to be resistant, routine sensitivity testing is recommended.



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# Encounter under the Scanning Electron Microscope



## SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in

detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.



*E. coli* + sulfamethoxazole



*E. coli* + tetracycline



*E. coli* + cephalothin



*E. coli* + ampicillin

## Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,<sup>1-3</sup> strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of

its mechanism of action.

"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."<sup>2</sup>

It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.

**References:** 1. Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971. 2. Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother.*, 1:164, 1972. 3. Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note:** Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

**Contraindications:** Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

**Warnings:** Safety during pregnancy has not been estab-

lished. Sulfonamides should not be used for group A beta hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose 6-phosphate dehydrogenase-deficient individuals in whom dose related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** Blood dyscrasias (agranulocytosis



# Encounter in Clinical Practice

## Control of primary bacterial offenders

Antibacterial Gantanol® (sulfamethoxazole) controls susceptible strains of *E. coli* and other gram-negative and gram-positive organisms

often implicated in acute nonobstructed pyelonephritis and cystitis.

## Prompt antibacterial blood and urine levels

In from 2 to 3 hours after the initial 2-Gm adult dose, antibacterial levels are present in

both the blood and urine.

## B.I.D./T.I.D. dosage for around-the-clock coverage

Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking

and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

## Also effective in nonobstructed chronic and recurrent u.t.i.

It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often re-

spond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

## Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide

therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

**In nonobstructed cystitis and pyelonephritis due to susceptible organisms**

**Gantanol<sup>®</sup>**  
**(sulfamethoxazole)**  
**Basic Therapy**

aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); **allergic reactions** (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); **gastrointestinal reactions** (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); **CNS reactions** (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); **miscellaneous reactions** (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and S.L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thy-

roid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age** (except adjunctively with pyrimethamine in congenital toxoplasmosis).

**Usual adult dosage:** 2 Gm (4 tabs or teasp.) initially, then 1 Gm b.i.d. or t.i.d. depending on severity of infection.

**Usual child's dosage:** 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs b.i.d. Maximum dose should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.



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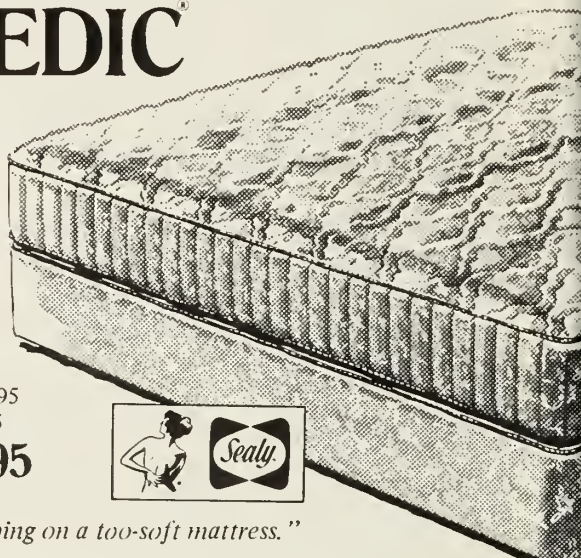
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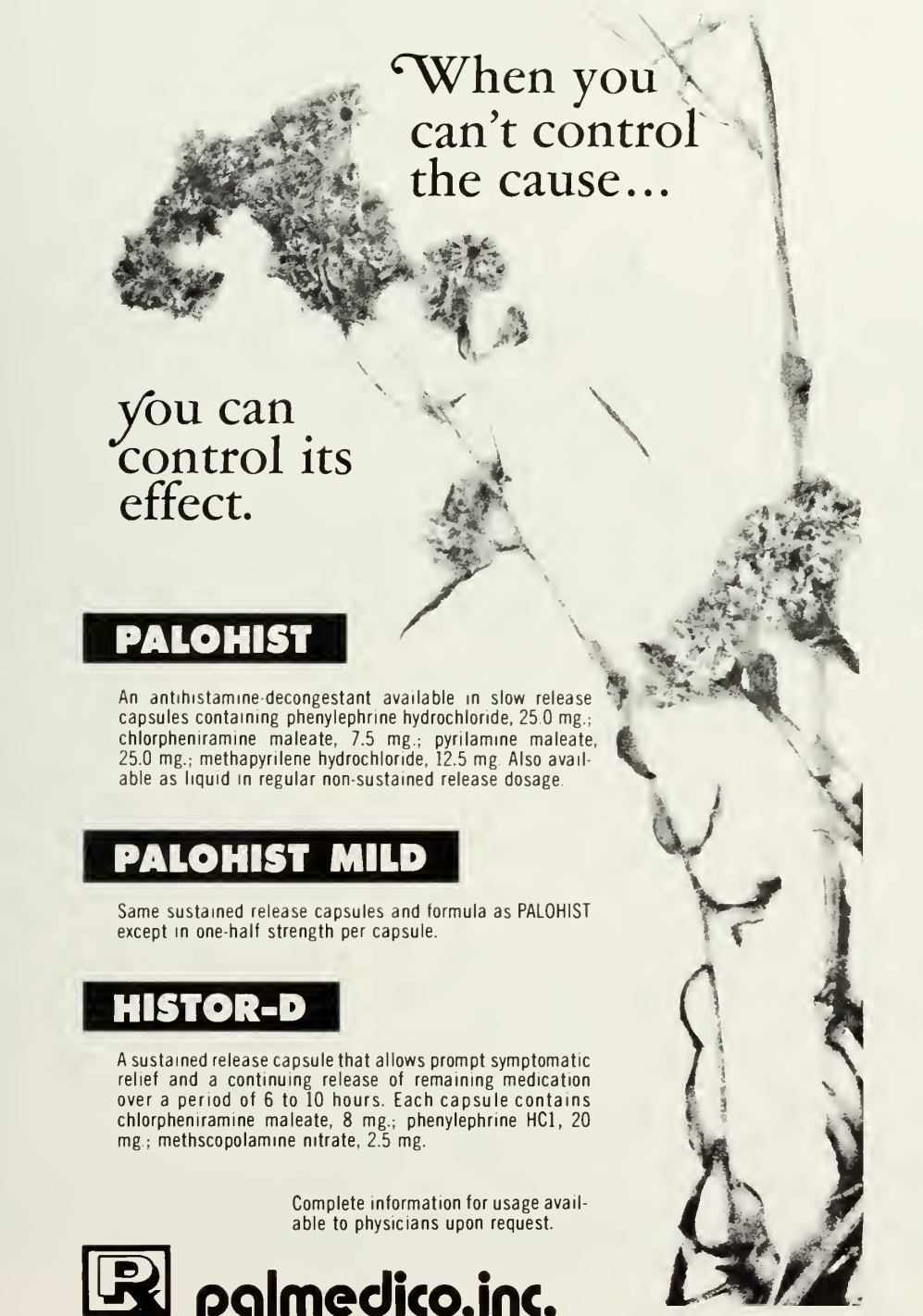
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*"The history of science, and in particular the history of medicine ... is ... the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."*

*—George Sarton, from "The History of Medicine Versus the History of Art"*

**Are combination drug  
products useful in treatment  
involving concomitant use  
of two or more drugs?**

**Opinion**

Results of a questionnaire to  
7,000 physicians:

**62.9%**  
Believe combination drug  
products are useful.

**13.8%**  
Do not believe combination drug  
products are useful.

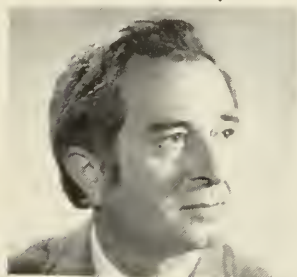
# Are combination drug products useful in treatment involving concomitant use of two or more drugs?

Opinion &  
Dialogue

## Dialogue

### Doctor of Medicine

Louis Lasagna, M.D.  
Professor and Chairman  
Department of  
Pharmacology & Toxicology  
University of Rochester  
School of Medicine  
and Dentistry



Obviously, many drugs are given concomitantly. Whether it makes sense to combine medications in one preparation, be it capsule, tablet, or liquid, is a question that can be answered only by examining the advantages and disadvantages in the individual case.

Among the advantages is, first of all, convenience. The more medications that are taken concurrently and the more complicated the directions, the less likely the patient is to take medications accurately. From the standpoint of convenience and accuracy, and economy as well, you can make an important case for putting medications together in one preparation, as long as they are compatible.

By the same token, when you prescribe a properly tested and rational combination, you should have less worry about pharmaceutical or pharmacological compatibility — and about reasonable dosage ratios as well. Compatibility of the formulation should be demonstrated in the laboratory and clinic before the product is available for prescription—which is more than can usually be said for

the physician's own spontaneous creations. And, the dosage ratios employed in rational precompounded combinations are designed to meet the needs of substantial numbers of "typical" patients.

There is no doubt that many "atypical" patients are to be found, and for them the prefabricated combination must be rejected. But that hardly argues for eliminating rational combinations from the market. Think, for example, of the problems that would arise if the components of widely accepted combinations, like the oral contraceptives and the diuretic-antihypertensives, always had to be prescribed, purchased and ingested separately.

One disadvantage that comes to mind is some doctors' unawareness of the ingredients a given combination contains. For example, a doctor might know that a patient is allergic to aspirin but forget that a certain analgesic mixture, which he knows only by its trade name, contains aspirin. His prescription, then, causes considerable discomfort, to say the least. This problem is a function of physician education, rather than of combination therapy as such. Improving doctors' knowledge about all medicaments they prescribe is a problem that deserves tackling on its own.

Another accusation leveled at combination drugs is that they encourage sloppiness of diagnosis and treatment. In many cases, however, a combination may prove to be the most effective choice. A good ex-

ample of the usefulness of combinations appears in a recent article in the *Journal of Chronic Diseases* on the efficacy and side effects of an antihypertensive containing three ingredients, in which the track records of the combination drug and the individual ingredients were compared. Interestingly enough, whether the drugs were given individually or together, incidence and severity of side effects were the same. But blood pressure control was invariably better when the drugs were taken in one combination tablet than when they were taken separately (in "titratable" dosage) or in two or three different tablets.

Deciding which combinations constitute rational therapy obviously leads to a discussion of who is to determine which should be used and which should not. Realistically, I think combinations should be evaluated somewhat differently if they are old and established or new and untried.

In today's regulatory atmosphere, there is no possibility of a new combination being put on the market without a substantial amount of acceptable evidence in the form of controlled trials that show it to be safe and efficacious. On the other hand, I believe a different set of standards should apply to combination preparations that have been around for a long time. In other words, physician acceptance over a long period should be given some weight as evidence of the efficacy and safety of these drugs.

The FDA, however, does not seem to share this attitude. It often requires, for these older products, controlled trials that will monopolize the time of already overtired investiga-

tors and cost a great deal of money. I wish we could agree on a "grandfather clause" approach to preparations that have been in use for a number of years and that have an apparently satisfactory track record.

For example, I think some of the antibiotic combinations that were taken off the market by the FDA performed quite well. I am thinking particularly of penicillin-streptomycin combinations that patients—especially surgical patients—were given in or injection. This made for less discomfort for the patient, less demand on nurses' time, and fewer opportunities for dosage errors. To take such preparation off the market doesn't seem to be good medicine, unless actual usage showed a great deal of harm from the injection (rather than the propo-

use) of the combination. The point that should be emphasized is that there are both rational and irrational combinations. The real question is, who should determine which is which? Obviously, the FDA must play a major role in making this determination. In fact, I don't think it can avoid taking the ultimate responsibility, but it should enlist the help of outside physicians and experts in assessing the evidence and in making the ultimate decision.



# Maker of Medicine

W. Clarke Wescoe, M.D.  
President  
Winthrop Laboratories



If two medications are used effectively to treat a certain condition, and it is known that they are compatible, it clearly is useful and convenient to provide them in one dosage form. It would make no sense, in fact it would be pedantic, to insist they always be prescribed separately. To avoid the appearance of pedantry, the "expert" derides the combination because it is a fixed dosage form. When the "expert" invokes the concept of fixed dosage form he obscures the fact that single-ingredient pharmaceutical preparations are also fixed dosage forms. By a singular semantic exercise he implies a pejorative meaning to the term "fixed dose" only when he uses it with respect to combinations. What is ignored is the simple fact that only in the rarest of circumstances does any physician attempt to titrate an exact therapeutic response in his patient. It is quite possible that some aches and pains will respond to 500 mg. of aspirin yet that fact does not militate against the usual dose being 650 mg.

The other semantic ploy often called into play is to describe a combination product as rational or irrational.

Take antibiotic mixtures, the source of much of the criticism generated against

combinations generally. Obviously, no one should be exposed willy-nilly to the potential side effects of two or three antibiotics when only one is needed. At the same time there are cases where it is prudent to prescribe more than one. The clinician is the judge in these circumstances, as he should be.

There is no clear definition of the word rational. Most persons, I suppose, would find it synonymous with reasonable, but in many circumstances it may best be defined as the opinion of those in power at the moment.

Other factors govern combination therapy, not the least of which has been its broad use by practicing physicians anxious to achieve convenience in prescribing, to reduce medication error, and to save money for their patients. Combinations clearly have met the test on all three counts.

I have been impressed by studies showing that the rate of error climbs markedly with the number of medications to be taken, even with sophisticated patients. When medically justified, therefore, this factor alone supports the logic of combination therapy.

The cost argument for combinations appears to be irrefutable. In 1971, R. A. Gosselin studied the 71 combination products (excluding oral contraceptives) among the 200 most prescribed drugs. The study found that if all 71 products were discontinued, and if each ingredient in these combinations were prescribed separately, the price of medicines to patients would jump by \$443.2 million on a national basis! At a time when the cost of medical care is under so much fire, it would be nonsensical to boost costs without clearly irre-

futable medical reasons.

The part played by government on this question, of course, is fundamental. The FDA should play a role in determining which combinations are reasonable. That role, as defined by law and regulation, is to ensure that any medication on the market is safe and effective in line with its label claims. Certainly combinations are entitled to as much consideration as single entities—neither more nor less. So long as the addition of one drug to another does not make either less safe, or less effective, so long as they are compatible in a formulation, we have a reasonable product. It makes no sense to recommend the use of two products for certain conditions and to deny their being combined in a single form. An unhappy side effect of the problem concerns the efficacy panel discussions of many products submitted for review. The term "effective, but" has been freely interpreted to mean "ineffective" in toto, regardless of the merit of the individual drugs. This interpretation has placed numerous useful combination products in needless jeopardy.

In reading the actual reports of the review panels, it seems clear that some of the ratings were based less on scientific research and clinical observation than on the "informed" opinions of the panelists. These "informed" opinions were accepted at face value, while

the "informed" opinions of others who had used the products were rejected. All of this put combination products into a sort of scientific never-never land.

It should be kept in mind by all, government as well as others involved in our health care system, that advances in therapy are seldom made in leaps and bounds but rather by small painstaking steps—and that some of these steps have resulted from research in combination drugs as well as with single entities. Given the near-infinite biologic variation in patient response, this is hardly surprising to clinicians. It should not be to regulatory agencies either.

In the end, the practicing physician is in the best position to decide if a particular combination makes sense. Such a decision should not be made exclusively by those whose responsibility for continuing clinical care is limited. Clinicians are the best judges of efficacy because the ultimate proof of any product's effectiveness is acceptance by physicians who have observed its actions in patients over time. The corollary statement may be made about over-the-counter medicines, which would not long survive if they failed to afford the relief the user anticipates. That the antihistamine in a "cold" remedy may not *always* be necessary is no reason to proscribe the combination generally.

## Opinion & Dialogue

What is your opinion, doctor?

We would welcome your comments.



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### THE HISTORY OF HEALTH SPECIALITIES

#### Their Development and Present Status\*

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The development of medical specialization, in the sense that we know it today, began in the mid 19th Century as a result of increasing knowledge in various areas of medical science, along with new techniques for applying this knowledge either in a diagnostic or therapeutic way.

This division into specialty areas was initially in the surgical specialties and the medical specialties only after advances in the ability to apply therapeutic intervention in physiologic processes and pharmacologic specificities were developed, which changes arose in the mid 20th Century. Special practice sections in hospitals with resident training grew out of these advances. Board certification and the development of specialty boards began initially with certification in Ophthalmology in 1917. There are today some 20 primary boards and 7 conjoint or sub-specialty boards.

In order to appreciate the need for and the development of medical specialties, a review in brief of the development of Western Medicine is necessary. Even in the earliest phases of Western Medicine there did tend to be some minor areas, if not large areas, of spe-

cialty medicine either in respect to certain skills or certain areas of special knowledge restricted to certain individuals either as a part of medical practice by physicians or relegated to certain less highly skilled or learned groups, as non-physician medical practitioners of a type. Examples of these we will later see were bone setters, barber surgeons, etc.

Prior to Hippocratic Medicine, which is the forerunner of Western Medicine, we know through various documentary, mythical and archeological evidence that out of animism and magic grew Mesopotamian and Egyptian priestly medicine in which there were surgical and medical practices with some specialization, for example in respect to ophthalmology. Sanitary practices developed out of, in Israel, from Mosaic law and religious principles.

Medicine in India developed under Brahmin traditions and was quite advanced in respect to plastic surgery. Its height was reached in 100 A. D. under the influence of Charaka, who dissected and published human anatomical studies. Also pathological studies were made by him.

Chinese medicine was quite advanced in study and use of herbal preparations with a text "Nei Ching," which has been used in Chinese schools of medicine continuously since approximately 2600 B. C., at least by

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tradition dating back to Emperor Hwang-Ti of that era. Therapy is directed towards balancing Ying and Yang, a humoral concept of storage versus elimination. (There were five storage organs: heart, lungs, kidneys, liver, spleen) and five eliminating organs: small bowel, colon, gall bladder, stomach, urinary bladder). Chinese anatomy was mostly fanciful as compared with the accuracy of Indian human anatomy. Acupuncture as therapy dates from 2700 B. C., although as an anesthetic aid it has been only in the past ten to fifteen years for this purpose.

In ancient Greece, medicine was essentially a temple or priestly form of medicine until the time of Hippocrates, when Western lay or scientific medicine began about 400 B.C.

Hippocratic Medicine was constructed on reasoning and observational knowledge of the natural sciences. Observations related to cause and effect conducted in an ethical system were based on a moral code of behavior. Although anatomical knowledge was very limited, the "Corpus Hippocraticum" is otherwise filled with precise clinical observations and profound reasoning. The point of view is clinical however, not religious. In fact, Hippocrates denies the role of the gods in disease as in the concept of epilepsy as being a "sacred disease". In addition to seeking knowledge through observation and trial to determine cause, "Know thyself" was instilled into the neophyte physician and other aspects of the philosophy of Thales were dominant.

Although the Oath of Hippocrates contains some reference to priestly areas and to the gods of hygiene, health, healing and preventive medicine, it is otherwise directed toward the responsibility of the physician as an individual to his mentors, peers, and patients to uphold these ideals and their responsibility as individuals in turn to act toward the attainment of a true expression of knowing the divinity within man, i.e. as "made in God's image", therefore *primum non nocere* in the application of therapeutics. We are all part of a collective humanity. With any suffering, we all suffer. Hippocrates was born and lived on the Island of Cos 460 B.C. to 355 B.C., for 104 years. There he built onto the Aesculapian

tradition the Hippocratic School of Medical Thought, i.e. disease is a natural process; the treatment of disease employs natural means; the physician's efforts are to deal with and support the natural processes, but man is to be honored and dealt with as an individual, a child of God who is not to be denigrated or treated in mean or contemptible fashion. The physician must be highly moral and dedicated to his profession and set apart like a priest, but using his knowledge to use and promote natural causes and effects to aid nature to heal.

Aristotle (384-322 B.C.), through the Macedonian expansion of Alexander the Great, to whom he was tutor, continued this tradition throughout the Mediterranean to Persia and India.

Later, Galen (129-200 A.D.) continued this tradition and transmitted it as a part of Western culture into Rome and Romanized western Europe.

The transmission of Galen's Hippocratic ideas continued as the dominant force in medical practice and education without any additional or new knowledge until the development of the schools of Salerno, Padua and other Italian medical schools, such as Bologna, where human cadaver dissection was practiced and improved anatomical knowledge was developed, differing from that traditionally handed down by Galen, which was chiefly derived from animal dissection. This led in the 13th Century to surgical advances of much significance in the treatment of trauma, wounds and fractures. At Montpellier and other French schools, many advances were also made in the surgical arts. These schools were parts of the medieval church-related universities. In addition to surgical advances, more natural therapeutics and herbal compendia were developed. In addition, the sheltered monastic life led to scholarly organization of observations, both ancient and new, and scientific approaches towards natural observations and experimental methods were developed.

At the same time, the ecclesiastical discipline acted in a somewhat stifling way, in respect to full theorizing or speculation and

observation. Subsequently, this led to too much or too strict scholastic repression, and an excess of reverence for the authorities.

This lack of objectivity persisted despite a revival in the classical knowledge and philosophies by way of Arabian medicine, with the texts of Avicenna, Rhazes, Averroes and Moses Maimonides, and until the Italian renaissance of the late 14th Century, and in the late 15th Century by the Bull of Pope Sixtus IV in 1480, the church first officially authorized the study of human anatomy by dissection. During the second half of the 15th Century, with a revival of Greek Humanism of the Socratic and Platonic type of philosophical approach, Medicine became more of a lay rather than a monastic profession, although the conferring of the Bachelor, Master and Doctorate degrees continued to have religious connotations in the ceremonial acts of conference.

The discovery of the art of printing vastly hastened the development of medical schools, and the spread of universities. The humoral theory of disease and the therapeutics of Galen continued despite the anatomical and surgical advances and remained along with some elements of religious and mystical practices for some 200 more years, as exemplified by the kings of England and France holding sessions regularly for "touching" their subjects with certain diseases, notably scrofula, until the early 18th Century.

Surgery was less hampered than Medicine in advancing during this period by a lingering, restrictive scholasticism, some of which was traditional and some by legal licensing. Through the faculty of the medical school at Salerno in Italy, Arabian, Jewish, and Eastern practices were introduced into Western Medicine, bringing improvement in the treatment of eye diseases, dermatology and urologic conditions, as well as public health measures. These and sanitation measures, such as improved standards of care and cleanliness in hospitals, were introduced by faculty, urging regulations to control the handling of food, the sale of poisons and drugs, and burial of the dead. These and the definitions of physician and surgeon practices underwent legal

regulations in the 13th Century, as well as regulations as to who could practice medicine. Practicing physicians were mostly Masters. Doctors were chiefly faculty.

Municipalities strived to obtain good and celebrated physicians. Much complaint about physicians' fees was engendered by those who wished to have medical care provided for as a municipal service, such as cleaning streets. This led to a dictum of teaching by the medical faculties of an aphorism of the late Medieval period:

*"Non didici gratis, nec musa sagax Hippocratis*

*Aegris in stratis serviet, absque datis.*

*Si quae datur gratis, nil affert utilitatis.*

*Sed hic dum lucra quaerit primum, veritus in arte perit."*

This can be translated:

*"Don't provide your service gratis,*

*Not the muse of Hippocrates,*

*Nor serve the sickbed without reward.*

So something for nothing, no results afford, But as soon as lucre is primarily sought, the merit in the art departs."

Boccaccio and Petrarch both, however, waxed wroth about the luxury and grandiloquent fashion and behavior of many of the physicians of this period. Despite such criticisms, which were most heated by Petrarch, the ethics of medical practice were developing to a fullness along with regulatory statutes. However, with this and a lingering scholasticism, there began to be a disdain for surgery and other manual activities, with a separation of this and the compounding of drugs from the practice of university physicians, and this was given over to barbers and apothecaries to practice, although the texts and herbals and anatomical details were developed by the university physicians. Some of these did continue to practice operations for special problems, such as kidney or bladder stone, cataract and hernia. Often this was on a traveling or peripatetic basis. At the University of Paris, however, the graduating physician had to take an oath not to do surgery or bloodletting.

The barber or bleeder let blood, pulled teeth, sold unguents, gave enemas, and practiced surgery. This continued almost until

1700. In addition, these men tonsured the religious. Those with university or more advanced training became barbers of the "long robe", or Chirurgions, later the "Company of Surgeons" as in England with the joining of the barber and surgeons companies in 1540 under edict of Henry VIII. The less skilled had been designated barbers of the "short robe", who essentially were bloodletters and teeth pullers.

During the late Middle Ages, urine examination came into prominence as a diagnostic aid. This skill was zealously guarded by certain physicians trained in this form of observation as a means for diagnosis of a number of diseases.

The great anatomists of the Middle Ages and early renaissance were of much importance with their original discoveries for the discarding of Galenical tradition, among which are recognized Leonardo da Vinci and Antonio della Torre, who, though not physicians, studied certain areas of Medicine and did original anatomical studies and dissections. However, due to the limited distribution of the studies done by these men, it was not until Vesalius (1514-1564) and the publication of his *De humani corporis fabrica libri septem* in 1543, that such studies became widespread knowledge. The illustrations of this text by Calcar are even today superb in detail and clarity as reproduced from the engravings he made for it. Despite the studies of da Vinci and Vesalius, no accurate concept of the circulation of the blood was had until the studies of Michael Servetus, Realdus Colombo and Ccsalpino were combined in a study and treatise by William Harvey in 1628, *Exercitatio anatomica de motu cordis et sanguinis in animalibus*. He demonstrated the flow and return of the blood via arteries and veins in both the lesser — or pulmonary, and greater — or general — circulation. The capillary link he did not identify, and this was not demonstrated until 1661 by Malpighi, who used the microscope for this purpose as well as for many other anatomical contributions which he made. This is an early example how final proof must often await a technical advance.

Harvey's work was not fully accepted for several years, however, showing the lingering effects of authoritarianism, a condition which is again gaining ground in Medicine. Other studies in support were by Riva, Aselli and Pecquet, who studied the lymphatics and showed their relation also to fluid flow along side veins.

Other distinguished anatomists of this period were Eustachius, Valsalva, Morgagni, Fabricius, Hooke, Redi and Swammerdam.

Physiology became a science at this period, along with Anatomy. The perfection of the microscope was made by Antoni van Leeuwenhoek (1631-1723) of Delft and Utrecht, Holland, and his studies in 1680. Although not a physician nor a university graduate, Leeuwenhoek contributed many discoveries and stimulated others in Holland so that a period of great studies continued for many years by the Dutch schools at Leiden and Utrecht in Holland.

Along with the development of anatomy, physiology and pathology, chemical and experimental research methods in the study of medical problems began and the adaptation of chemical, physical and mechanical methods with studies by Paracelsus, Santorini, Borelli, Malpighi, Van Helmont and Willis.

Parasitology began with Redi and others who also contributed to embryology and general biologic studies involving tissue and cell studies.

Physiology was developed by the Italian School as a science in the 17th Century.

The improvement of bedside medicine, using the new knowledge, was more particularly by the English physicians of this period, Sydenham (1624-1689), and Locke being the most renowned. Also the Scotch physicians who were indebted to Boerhaave. All of these men were members of Parliament in politics.

Obstetrics became a part of medical practice rather than an midwifery prerogative during this period with the development and refinement of forceps and techniques for their use by H. Chamberlen and Mauricaeu, 1668.

Legal medicine with the use of autopsies became recognized in Italy during the early 1600's, with a book on forensic or medico-



legal matters by Zacchia of Rome in 1621, which is a landmark in this special area of medical knowledge.

With advances in chemistry, pharmacology developed with the study of extracts of cinchona bark for fevers and mercurials for syphilis. Metallic medications and new world empirics were investigated by empirical or experimental design and active parts identified and refined.

Occupational diseases began to be recognized as well as diseases such as ergotism due to contamination of foods. Methods to control epidemics through public health measures and quarantine were introduced on a rational basis.

In the schools, scholasticism continued to fight against observational ideas which were against Galinical tradition. In a literary exaggeration, it was stated that for a candidate for a Doctoral, four aphorisms of Hippocrates, a dozen passages of Galen, and quotations from various classics in Latin would pass any candidate, along with naming of various diseases in clinical Latin terminology.

An intense interest in things medical is reflected in the popularity of the exacting portrayal of various diseases and deformities as are shown in the portraits and works of artists, such as Rembrandt, Brueghel, Teniers, Velasquez, Riberi and Murillo in the period of 1600-1700.

The 17th Century was dominated by a philosophy which called freedom for investigation both intellectual, scientific, political, social and religious. Its physicians and scientists were often politically active in liberal or democratic areas and against dogmatism, whether personal, religious, or political. This continued into the 18th Century and led to the further development of the freedom for the individual, which led to a spirit of revolutionary idealism against established institutions with orientation towards physical science as a dominant force in philosophy and for inductive reasoning. Intellectual liberalism was dawning in Europe and leading to the American and French revolutions with a decline in absolute monarchism. Voltaire, Montesquieu, Rousseau, Leibnitz, Von Wolff, al-

though philosophers, exerted effects on Medicine, as well as on the political and social life of the late 18th Century.

New classifications as by Linnaeus became a popular exercise beyond those initiated by Aristotle with an attempt to systematize for better understanding. Pseudoscience also flourished with various hypothetical or theoretical systems for causation of disease processes and states. Animism, vitalism dynamism, the Phlogiston theory and various schools of iatrochemistry of alchemical type were popular. Along with this was developed the publication of manuals and archives of a scientific type, and also devoted to certain schools of theory as to causation of physiologic derangements and disease processes such as Mesmerism, phrenology, animal magnetism, etc.

With these advances there also developed various charlatans who misappropriated scientific findings to inglorious and imaginary ends, such as are represented by Count Cagliostro or Elisha Perkins and his metallic tractors. Homoeopathy also developed under Hahnemann, which led to fewer drugs and less massive doses, due to observations that his treatment produced better results, or fewer adverse reactions, in many instances. Just as surgeons learned from Ambrose Paré that wounds did better if not treated with boiling oil in the 16th Century, so it was learned in the 18th Century that drugs needed to be fewer and selected on the basis of careful observations of their effects, judged on an individual basis.

During the 18th Century, Peyronie and other French surgeons led surgery and surgical practice back to the physician, and from an inferior social position to one of full professional quality of recognition on the European continent. In England, John and William Hunter, as anatomists, pathologists and surgeons, led to this reform with professional acceptance of surgeons as members of the physician class. They found it (Surgery) a mechanical art and left it a science, along with studies of much significance to general medicine clinically, and in anatomy, pathology, and obstetrics.

It was also during the mid 18th Century that midwifery returned to Medicine. Smellie, Lebas, and Baudeloeque were among those who also contributed to the advancement of Obstetrics as a part of medical practice and science, and not to be relegated to midwives.

During this period, Ophthalmology was advanced both in respect to anatomy and physiology by Petit, Dalton, Stahl, Martin, Jean and Thomas Young. In Austria, Joseph Barth in 1773 became head of the first school devoted to the study of eye diseases and disorders, the Vienna School of Ophthalmology.

Chiarugi (1759-1820) became the first Professor of Psychiatry of an endowed chair at the Bonifazio Hospital in Tuscany in 1802. He had previously been made director in 1788, and in 1793 he published a textbook on the diagnosis and progress of mental disorders. Phillipe Pinell, Esquirol and A. M. Ferrus published papers on the improved treatment for the insane at the Bicetre and Salpêtrier Hospitals, Paris. Reil in Germany and John Connolly in England advocated the treatment of the insane without mechanical restraints.

Phrenology as an erroneous pseudoscience arose at this time from teachings by Gall and Spurzheim in 1805. This false science was brought to the United States by Spurzheim and enjoyed a flurry of popularity.

Control of smallpox through inoculation (Lady Mary Montagu of the British embassy at Constantinople, 1718), and later by cowpox vaccination by Jenner, 1796, was one of the several hygienic and public health studies made in the early 18th Century including recognition of and measures to control typhus, syphilis, scarlet fever, diphtheria and tuberculosis, as well as yellow fever. Measures to control excremental wastes, to improve water supplies, indoor baths and toilets were introduced in the later 18th Century to improve city living.

Scientific advances in physics, electricity, magnetism and optics brought improvements in Medicine, but also introduced the opportunity for much quackery as was earlier related.

Professors of Obstetrics and special lying-in hospitals were established in Edinburgh in

1739 and in Dublin in 1743. The Rotunda Hospital of Dublin was established in 1751, the British Lying-In at London in 1749 and Queen Charlotte's in 1752. In the United States, Pennsylvania Hospital 1751, New Orleans University 1737, Bellevue New York 1735 were established as hospitals with obstetrical care areas. In the United States, medical schools were established at Pennsylvania in 1768, King's College (later Columbia University) 1770 in New York, Medical College of Harvard in 1783, Dartmouth in 1796, and Transylvania in Kentucky in 1799.

During the early 19th Century period of 1820-1850, cellular physiology and anatomy and modern pathology were established by the studies of Schlieden and Schwann, and Virchow and Rokitsansky; physiology by these: Gallini, Magendie, Claude Bernard, DuBois-Reymond, Jules Marey, Johanne Muller in Europe, and Beaumont in America. Cruveilhier, Helmholtz, Dupuytren were other pathologists of note in this period.

The 18th Century was responsible for many advances, but actually Modern Medicine began in the 19th Century.

Physical diagnosis became established during the period with coordinating the percussion of Auenbrugger of 1760 with Laennec's stethoscope of 1817, by his text on *Lung and Heart Sounds in Disease* of 1826, and the findings of others interested in Clinical Medicine.

Richard Bright, Thomas Hodgkin, Robert Graves, William Stokes, John Cheyne, Robert Adams, Dominies Corrigan, Josef Stroda, Lucas Schonlein are some of the many who in Ireland, England, Scotland, and Germany took the basic, fundamental observations of the earlier French clinicians and established Modern Medicine during the same period of the 19th Century, along with diagnostic techniques.

Although ether anesthesia was introduced by Crawford Long in 1842, a Georgia county doctor, the chief advance which permitted modern surgery to develop in this period of time was, in addition to the studies of Pasteur, the antiseptic of Lister. The earlier observations of Oliver Wendell Holmes of Boston,



and the later, more renowned ones of Semmelweis of Austria on childbed fever, though initially denied and disputed, laid the groundwork for modern Obstetrics in 1861.

Gynecology was established by the operative skills of Ephraim McDowell of Kentucky in 1809 and by J. Marion Sims of South Carolina in 1845.

Helmholtz's invention of the ophthalmoscope in 1850 led to the development of the science of Ophthalmology.

Otology and Laryngology developed from the studies of Guyot, Cleland, Itard, Voltolini, Toynbee, Menier, Garcia and Trousseau between 1821 and 1860.

Dermatology and Syphilology developed from the studies of Ricord in 1838 who, though born in Baltimore, Maryland, established his reputation and taught in Paris. He was known as the "Voltaire of pelvic literature" because of his wit and frankness in dealing with venereal disease, and particularly syphilis. Willan, Bateman, Louis Alibert, Meisser, Ducrey, Wassermann, Von Hebra, Kaposi and Newmann were other important venerologists.

Among great dermatologists must be remembered Unna, Schoenlein, Breck, Quinke, Hebra, Kaposi, Vidal, Hutchinson, Fox, Duhring, and Fordyce.

The earlier work of Valsalva, Pinel and Chiarugi was extended with the development of Neurology and Psychiatry as specialized areas by Alberto, Lombroso, Charcot, James Jackson and Griesinger during the period 1840-1870, and in the 1870-1900 period are to be remembered Duchenne, Maric, Tooth, Oppenheim, Griesinger, Dejerine, LaTourette, Raynaud, Raymond, Bernheim, Erb, Froedreich, Wernicke, H. Jackson, Gowers, Weir Mitchell, and Huntington.

Hygiene and Social Medicine, as well as statistical and epidemiological approaches, were initiated in the mid and late 19th Century.

The specialties, though begun as in-depth studies of special medical and surgical areas as earlier indicated in the early to mid 19th Century, with further scientific advances and the clearly developing pattern of Clinical

Medicine based on teaching hospitals and university related faculty, became firmly established as a pattern for the further development of medical knowledge and eventually as a pattern for clinical practice in the later one-third of the 19th Century.

The studies of Koch, Busse, the further studies of Virchow, hastened this process along, as did advances in basic science, including the discovery and use of dyes to study tissue slices and blood smears. Cytology, embryology, genetics and immunology grew out of these studies, and these advances combined with advances in physical science and mechanical technology to the advances in physiology which led into our modern era of Medicine: Roentgen, Einthoven, Fick, Schiff, Carl Ludwig, His, Pavlov, Brown-Sequard, Sherrington are among the great of this period who established knowledge of muscle physiology, nerve interaction, x-rays measuring devices such as the EKG, the monometer, skin resistance, etc. With the advances in basic science was born Biochemistry out of organic chemistry with discoveries by Heller, Mellon, von Pectenkofer, Von Fehling, Benedict, Minkowski, Pfluger, Bancroft, Warburg, Van Slyke, Voit, and Ehrlick. Endocrinology, nutrition, metabolism, enzymology and physiologic chemistry grew out of these scientific studies of 1860-1895.

Microbiology had its beginnings with Leeuwenhoek's microscopic descriptions of bacteria in 1675. Spallanzani, Plenicz, and others developed the concept of contagion which was further developed by Henle in 1840, but it was Pasteur and Koch who founded the science of Microbiology. Heat sterilization and pasteurization were demonstrated in 1863. Vaccination with killed bacteria was introduced in 1881, and the Pasteur method of immunization for prevention of rabies. At the Pasteur Institute in Paris were gathered other scholars and leaders in the science of Microbiology: Metchnikoff, Emile Roux, Yersin, Calmette, Martin, Nocard and Klebs, to name a few of the more distinguished scholars at that Institute at one or other times.

In Germany, Koch, Löffler and Gaffkey with their pupils Auerbach, Weigert, Cohn-



heim, and Welch further advanced the new science.

Nearly all the bacterial agents of disease were discovered between 1850 and 1900. During this time the various protozoal agents involved in tropical diseases were also discovered. These studies are associated with men by the names of Laveran, Carlos Finlay, Golgi, Ross, Manson, W. S. Thayer, W. C. MacCallum (1850-1920). An appreciation of vector transmission and the complicated life cycles and host parasite relationships enabled the development of settlements, agriculture, trade, and opening up of the tropical areas of the world to western and European culture and commerce. Tropical Medicine developed as a specialty in respect to control, diagnosis, and treatment of various infections and protozoal and fungus agents identified by these microbiologic observers.

Clinicians who developed bedside medicine along with the advancing science, and who deserve to be remembered for their findings, writings and teachings in the late 19th and early 20th Centuries are: from Germany — Frerichs, Naunyn, vonLeyden, Fraenkel, Traube, Kussmaul, Nothnagel, Curshmann, vonMuller, Strumpell, Minkowski, Sahli, and Ewald; from England — Gull, Wilks, William Jenner, Sutton, Sir Clifford Allbutt, James Mackenzie, Thomas Lewis; of America — William Osler, L. F. Barker, W. S. Thayer and Longcope of Hopkins, Norris, Gerhard, Pepper and Musser of Pennsylvania, Warren, Jackson and Shattuck of Harvard, Austin Flint, Delafield and Janeway of New York Bellevue, Trousseau, and Dieulafoy, Potain, Borchard, and Hanot of France.

In surgical advances, Gross, Agnew, Reverdin, Thiersch, Cushing, Billroth, vonMikulicz, Radicki, Trendelenberg, Bigelow, Paget, Halsted, Hutchinson, are names of men of great distinction in Surgery.

The development of the specialty of Pediatrics grew out of studies by the Germans Henrich and Carl Gerhardt in the 1850-1900 period.

The first encyclopedic text was by Schlossman and von Pfaundler, *The Handbook of Pediatrics* in 1906, translated into English in

1908. Trusseau, Guerin, Margan were important French pediatricians. In England, specialization in Pediatrics was slow to develop, but the Hospital For Sick Children on Great Ormond Street in London was founded in 1852. Still, Little, Gee and Dukes are pioneer English pediatricians.

Pediatrics in the United States was virtually developed by Abraham Jacobi, who developed a Pediatrics Section at Physicians and Surgeons Hospital in New York in 1860. J. L. Smith produced the first American text in 1869. Koplik is another to be remembered.

Urology began in Vienna by Dittel, and was developed into a science by Hugh Young at Johns Hopkins in the early 20th Century.

Orthopedics: Although fractures, dislocations, and other orthopedic conditions and various appliances were written about and sporadically utilized from Hippocrates on, it was not until the late 18th Century that any real progress was made toward this becoming a specialty. Indeed, for a period, bonesetting like other surgical procedures was relegated to folk medicine.

"Orthos Paedeia", translated as straightening of children, as a term was first used by Nicholas Andry in his text published in 1741 in Paris. This dealt with congenital skeletal deformities. Casts were introduced in 1851. Physiotherapy and hydrotherapy exercises were scientifically and physiologically developed by Zander. Operative orthopedics was advanced in the modern sense by von Lagenbeck, Albert, and F. Koenig. In England, Albert, and in the United States, Sayre were celebrated early orthopedists.

Dentistry: The Etruscans and Romans had skilled dental work with bridges, artificial teeth, dentures, etc., and in 1563 caries were treated with gold filling methods. Cleft palate was treated by prostheses in the mid 16th Century. John Hunter began the foundations for scientific dentistry in 1771 in a sense, but modern dentistry as we know it today was developed in the United States in the mid 19th Century by such men as Thomas Evans of Pennsylvania, S. C. Barnum, Morrison, Jenkins, Martin and Wells. The Society of Surgeon-Dentists was founded in 1834, and *The*

*American Journal of Dental Science* began publication in 1839. The first College of Dentistry was founded by C. A. Harris of Baltimore in 1838. It awarded the degree of Doctor of Dental Surgery.

Nursing: Nursing as well as many advances in trauma, transportation, and rehabilitative medicine, grew out of war experiences of the American Civil War, the Crimean War, and World War I. Florence Nightingale of England in 1854 in the Crimean War, and Theodore Fliedner of Germany, who established the deaconess houses for care of the sick beginning in 1836, and Dorothea Dix of the United States during the American Civil War and later the American Red Cross nurses, developed this area of medical care.

The advances of the mid 20th Century are, in addition to many refinements of techniques, related chiefly to the developments of chemotherapeutic and antibiotic agents, along with synthesis and extraction of endocrine substances to replace deficits; the discovery of vitamins, other nutritional requirements, and a better understanding of immunology leading to the development of improved vaccines and the ability to suppress immune mechanisms when desired in order to develop trans-

plantation techniques.

Other advances have been in the area of diagnostic methods in chemistry, isotopes and radiology. Therapeutic application of isotopic techniques and the application of methods for continuous monitoring of physiologic processes have served to improve patient observations and timely intervention and treatment.

The discovery and synthesis of a variety of drugs and new medications, and the development of experimental and clinical pharmacology, have completely revolutionized therapeutics since 1930. Blood transfusions, serologic diagnosis, enzyme assays are others. Further advances are now in the area of better understanding of cellular structure, cellular physiology and virology made possible by the new technology of electron microscopy since 1927. Fleming, Florye, Chain, Domagk are names associated with chemotherapy and antibiotics. Perhaps one of the most dramatic changes in Medicine has been the extinction of poliomyelitis through the development of the killed vaccine, and later the attenuated vaccine of Sabin in the last twenty years, a former scourge which has now virtually disappeared in the United States.

## X-RAY FILM OF THE MONTH

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**HISTORY:** This 48-year-old white female has a one and a half year history of epigastric discomfort associated with two acute episodes of severe left upper quadrant pain requiring hospitalization. An upper G. I. series performed 14 months prior to admission was within normal limits.

What is your x-ray diagnosis?

1. Normal stomach.
2. Carcinoma of the stomach.
3. Pancreatic pseudocyst.

4. Lymphoma of the stomach.

5. Leiomyosarcoma of the stomach.

**ANSWER:** Pancreatic pseudocyst. There is flattening and irregular partial obliteration of the fundal mucosal pattern by an extrinsic mass lesion. Pancreatic pseudocysts manifest themselves radiographically when they attain sufficient size to distort and displace adjacent stomach, duodenum, or transverse colon depending on their location.



# President's Pages



I dare say that H.R.-1, the so-called Social Security amendment measure, will have become the most far-reaching piece of legislation affecting directly the practice of medicine, in many a year. This was enacted by the 92nd Congress, and became law when signed by President Nixon on October 30, 1972. The measure, now known as Public Law 92-603, is actually misnamed, because it also provides for the establishment of Professional Standards Review Organizations (PSROs) and makes extensive changes in the Medicare, Medicaid, and Natural and Child Health programs. It opens the door to Health Maintenance Organizations (HMOS) and even covers limited chiropractic services under Medicare. The provisions pertaining to the creation of PSROs, to chiropractics, and yet other features can be construed as direct insults to the medical profession.

It is totally impractical to list all of the features of the bill in a short editorial, not only because of the length of the bill but also because of its complexities. But some of the provisions in the PSRO sections which are of particular importance to the medical profession are the following:

Effective January 1, 1973, H.R.-1 provides for professional standards review organizations in a form only slightly modified from those advocated in the much discussed Bennett Amendment.

The expenses of PSROs will be underwritten by H.E.W. Service on a PSRO will be open to both M.D.s and Osteopaths, who may not be required to be members of or pay dues to any medical society as a condition of joining a PSRO.

The Secretary of H.E.W. must designate PSRO areas throughout the U.S. by January 1, 1974. Until 1976 only organizations representing a substantial proportion of physicians in an area can be designated as PSROs. After January 1, 1976, if no such organization exists in a given region, the Secretary of H.E.W. can designate a qualified public or non-profit organization to serve as the PSRO.

PSROs will collect data, information, and records as directed by the H.E.W. Secretary, who will have access to them, and presumably, PSROs must use only M.D.s and D.O.s to review actions of their peers.

PSROs initially will be required to review only institutional care. Thereafter they will exercise a much wider scope, and determine whether services or items paid for by Medicare, Medicaid, and Maternal and Child Health programs are medically necessary, whether quality meets professionally recognized standards and whether the facility in which the services were performed was appropriate.

Under the Secretary of H.E.W., there is to be an interchange of data, including usage of existing data gathering capacity, among participating agencies, organizations, carriers, PSROs and public and private agencies having reviewed and control functions or data gathering procedures or experience.

Data gathered by PSROs are to remain confidential.

PSRO employees or professional consultants cannot be held criminally liable for performing authorized duties. No physician is civilly liable solely for actions taken in compliance with or reliance upon PSRO norms (but some legal counsel has advised that these provisions do not exempt physicians from malpractice liability if they fail to exercise due care).

PSROs will have advance authority over elective admissions to hospitals and other facilities as well as extended or costly treatment.

PSROs will use hospitals' review committees to the extent that they are determined to be effective.

PSROs are to report violations imposed on practitioners, and recommendations to a State Professional Standards Review Council, and in turn to the Secretary of H.E.W.

If providers dispute PSRO decisions, they may ask for reconsideration. If the PSRA reaffirms its decision, the provider may appeal to the State Council if the amount involved is at least \$100.00. If the decision is adverse to the beneficiary, he may appeal the decision to the Secretary of H.E.W. Such cases involving \$1,000.00 or more may be appealed further to the courts.

Providers of services paid for under the Social Security Act who violate PSRO tenets may be banned from participating in governmentally founded programs, or if they wish to continue, be fined the lesser of \$5,000.00 or the cost of the improper services. If dissatisfied, the providers have the right to a H.E.W. hearing and judicial review.

The State Professional Standards Review Council appointed by the Secretary of H.E.W., will have one representative from each PSRO, four physicians (two appointed by the state medical association and two by the state hospital association), and four public representatives.

The Council will have an advisory committee of seven to eleven members, all health care practitioners but none of the M.D.s.

One could go on and on, but the above should suffice.

In addition to being insulting, one cannot fail to observe that the bill appears to have been designed deliberately to create a group of paid physicians to act specifically as agents of the federal government to police their physician-colleagues, and judge them according to standards which may be entirely arbitrary or controversial, or based on costs, and not on sound medical indications or practice.

Edward F. Parker, M.D.



## 50 YEARS AGO

January, 1923

Pickens County was spearheading an effort to block a bill proposing to legalize chiropractic medicine. Dr. M. H. Wyman wrote on genito-urinary routine. Dengue fever was active in Charleston.

# WHEREVER IT HURTS

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Fractures



Wherever it hurts,  
Empirin Compound with  
Codeine usually provides  
the relief needed.

HERE


Bursitis



In general, only pain so severe  
that it requires morphine is  
beyond the scope of  
Empirin Compound with Codeine.

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Up to 5 refills in 6 months,  
at your discretion (unless  
restricted by state law); by  
telephone order in many states.

Empirin Compound with  
Codeine **No. 3**, codeine  
phosphate\* 32.4 mg. (gr. ½);  
**No. 4**, codeine phosphate\*  
64.8 mg. (gr. 1). \*Warning—  
may be habit-forming. Each  
tablet also contains: aspirin  
gr. 3½, phenacetin gr. 2½,  
caffeine gr. ½.

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North Carolina 27709



# EMPIRIN<sup>®</sup> COMPOUND c CODEINE

#3, codeine phosphate\* (32.4 mg.) gr. ½  
#4, codeine phosphate\* (64.8 mg.) gr. 1





**IMPORTANT INFORMATION:** This is a Schedule V substance by Federal law; diphenoxylate HCl is chemically related to meperidine. In case of overdosage or individual hypersensitivity, reactions similar to those after meperidine or morphine overdosage may occur; treatment is similar to that for meperidine or morphine intoxication (prolonged and careful monitoring). Respiratory depression may recur in spite of an initial response to Nalline® (nalorphine HCl) or may be evidenced as late as 30 hours after ingestion. LOMOTIL IS NOT AN INNOCUOUS DRUG AND DOSAGE RECOMMENDATIONS SHOULD BE STRICTLY ADHERED TO, ESPECIALLY IN CHILDREN THIS MEDICATION SHOULD BE KEPT OUT OF REACH OF CHILDREN.

**Indications:** Lomotil is effective as adjunctive therapy in the management of diarrhea.

**Contraindications:** In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

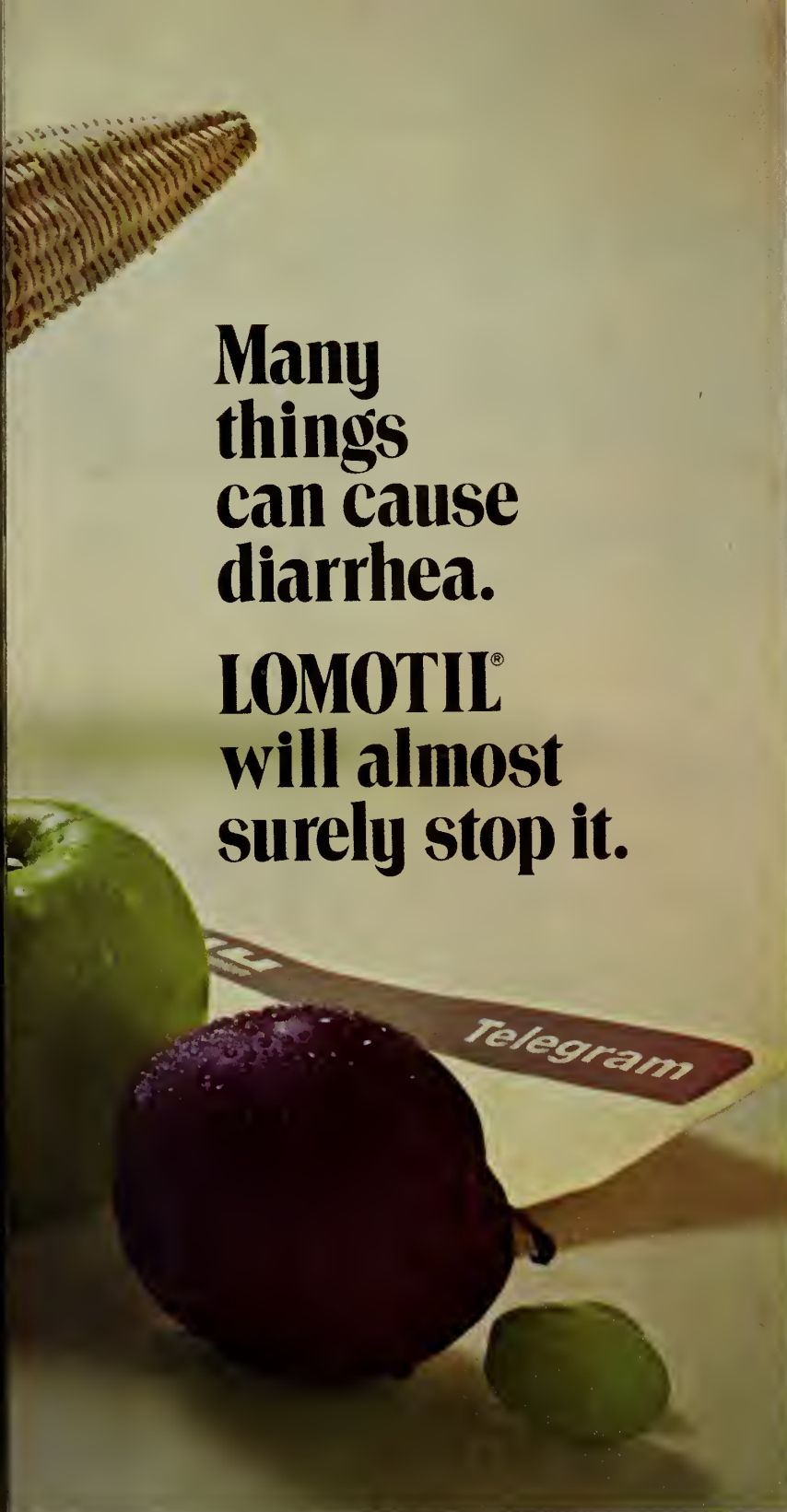
**Warnings:** Use with caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis.

**Usage in pregnancy:** Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the

breast milk of nursing mothers.

**Precautions:** Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage.

**Adverse reactions:** Atropine effects include dryness of skin and mucous membranes, flushing and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy,



**Many  
things  
can cause  
diarrhea.**

**LOMOTIL®  
will almost  
surely stop it.**

The causes of diarrhea are as varied as man's complaints and indiscretions. Because the causes of diarrhea can be obscure and because uncontrolled diarrhea can present serious problems, it is important to know a drug that will usually stop diarrhea promptly. For many physicians, the antidiarrheal drug of choice is Lomotil. It provides almost certain control of diarrhea.

It is also useful in controlling the intestinal transit time of patients with ileostomies and colostomies and the diarrhea occurring after gastric surgery.

Serious side effects are infrequent with Lomotil. It should be used with caution in young children, however, because of their variability in response. Use of Lomotil in children under two years of age is contraindicated.

**For the almost certain  
control of diarrhea,**

## **LOMOTIL®**

**TABLETS/LIQUID**

Each tablet and each 5 ml. of liquid contain:  
Diphenoxylate hydrochloride ..... 2.5 mg.  
(Warning: may be habit forming)  
Atropine sulfate ..... 0.025 mg.



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Address medical inquiries to:  
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Box 5110, Chicago, Illinois 60680

exia, restlessness, euphoria, pruritus, angioneu-  
edema, giant urticaria and paralytic ileus.

**Contraindications and administration:** Lomotil is contraindicated in children less than 2 years old. Use only Lomotil liquid for children 2 to 12 years old. For children 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 1. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml. 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

**Overdosage:** Keep the medication out of the reach of children since accidental overdosage may cause drowsiness, even fatal, respiratory depression. Signs of overdosage include flushing, lethargy or coma, hypotension, reflexes, nystagmus, pinpoint pupils, tachycardia and respiratory depression which may occur

12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. Use a narcotic antagonist in severe respiratory depression. Observation should extend over at least 48 hours.

**Dosage forms:** Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. Liquid, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

**Dosage forms:** Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. Liquid, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.





## MINOCIN® made the difference in just eight days.\*

### Clinical Data:

**Patient:** 47-year-old male.

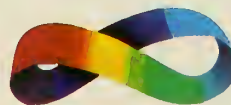
**Diagnosis:** Severe pyoderma, left hand.

**Culture:** *Staphylococcus aureus*, coagulase positive and sensitive to MINOCIN.

**Temperature:** 102° F

**Therapy:** MINOCIN Minocycline HCl Capsules, 100 mg: 200 mg *stat*, 100 mg every 12 hours. Medication began 9/7/71. By fourth day, temperature was normal and pustular lesions considerably improved. Last dose taken 9/14/71.

**Concomitant therapy:** None.†



Semisynthetic

**MINOCIN®**  
**MINOCYCLINE HCl**

Capsules, 100 mg: 2 *stat*, 1 q 12 h.

Minocycline is a tetracycline with activity against a wide range of gram-negative and gram-positive organisms.

**Contraindications:** Hypersensitivity to any tetracycline.

**Warnings:** The use of tetracyclines during tooth development (last half of pregnancy, infancy and childhood to the age of 8 years) may cause permanent discoloration of the teeth (yellow-gray-brown). This is more common during long-term use but has been observed following repeated short-term courses. Enamel hypoplasia has also been reported. Tetracyclines, therefore, should not be used in this age group unless other drugs are not likely to be effective or are contraindicated. In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, use lower doses, and, in prolonged therapy, determine serum levels. Photosensitivity manifested by an exaggerated sunburn reaction has been observed in some individuals taking tetracyclines. Advise patients apt to be exposed to direct sunlight or ultraviolet light that such reaction can occur, and discontinue treatment at first evidence of skin erythema. Studies to date indicate that photosensitivity does not occur with MINOCIN Minocycline HCl. In patients with significantly impaired renal function, the antianabolic action of tetracycline may cause an increase in BUN, leading to azotemia, hyperphosphatemia, and acidosis. **Pregnancy:** In animal studies, tetracyclines cross the placenta, are found in fetal tissues, and can have toxic effects on the developing fetus (often related to retardation of skeletal development). Embryotoxicity has been noted in animals treated early in pregnancy. Safety of use during human pregnancy has not been established. **Newborns, infants and children:** All tetracyclines form a stable calcium complex in any bone-forming tissue. Prematures, given oral doses of 25 mg./kg. every 6 hours, demonstrated a decrease in fibula growth rate, reversible when drug was discontinued. Tetracyclines are present in the milk of lactating women who are taking a drug of this class. Safe

use has not been established in children under 13.

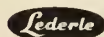
**Precautions:** Use may result in overgrowth of nonsusceptible organisms, including fungi. If superinfection occurs, institute appropriate therapy. In venereal diseases when coexistent syphilis is suspected, darkfield examination should be done before treatment is started and blood serology repeated monthly for at least four months. Patients on anticoagulant therapy may require downward adjustment of such dosage. Test for organ system dysfunction (e.g., renal, hepatic and hemopoietic) in long-term use. Treat all Group A beta hemolytic streptococcal infections for at least 10 days. Avoid giving tetracycline in conjunction with penicillin.

**Adverse Reactions:** (Common to all tetracyclines, including MINOCIN) GI: (with both oral and parenteral use): anorexia, nausea, light-headedness, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in anogenital region. **Skin:** maculopapular and erythematous rashes. Exfoliative dermatitis (uncommon). Photosensitivity is discussed above ("Warnings"). **Renal toxicity:** rise in BUN, dose-related (see "Warnings"). **Hypersensitivity reactions:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus. When given in high doses, tetracyclines may produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur. In young infants, bulging fontanels have been reported following full therapeutic dosage, disappearing rapidly when drug was discontinued. **Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

**NOTE:** Concomitant therapy: Antacids containing aluminum, calcium, or magnesium impair absorption; do not give to patients taking oral minocycline. Studies to date indicate that MINOCIN is not notably influenced by foods and dairy products.

\*Indicated in infections due to susceptible organisms. Culture and sensitivity testing recommended. Tetracyclines are not the drugs of choice in the treatment of any staphylococcal infection.

†Case Report, Clinical Investigation Department, Lederle Laboratories.



LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York 10965

436-2



# Editorials

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## Physicians Union

Considerable attention in the medical press has been drawn by several efforts (some successful) of physicians to form typical labor unions, with bargaining power, the right to strike and all other activities usually expected of trade unions.

We do not view unionization as proper activity for physicians. But, we strongly advocate concerted cooperative action by existing physician organizations. For example, most of us are aware of efforts by a certain insurance company active in the health care field to control physicians' fees. Their method has been to send letters to their clients in certain instances stating that a physician's fee has been found to be excessive in the opinion of the insurance company. If the doctor persists in that fee, the patient is advised to go to court and that the insurance company will furnish legal advice free of charge.

At the latest AMA meeting, our House of Delegates negotiated with the insurance company with unsatisfactory results.

My position is that grass roots reaction would be more effective. Just imagine what would happen if the Charleston Medical Society or the Columbia Medical Society, or better still the South Carolina Medical Association, decided to write and back up with unity a letter something like the following:

Dear A--na Insurance Company:

It has come to our attention that Mr. James Getwell has medical coverage on a "usual and customary fee" basis with your company. On August 3, Mr. Getwell underwent a surgical procedure by Dr. D. O. Good for a fee of \$200. Your company allowed only \$115 in payment. According to our calculations, \$200 is well within the usual and customary range in this area for the procedure performed by Dr. Good. We have today informed Mr. Getwell of this decision and

that it is our belief that, under the usual and customary stipulation of the contract between A--na and Mr. Getwell, the full \$200 should be paid to Mr. Getwell or his assignee. If this full payment is not soon forthcoming, we are prepared to furnish Mr. Getwell with legal counsel and advice to go to court to collect the full amount due him.

Yours for better health coverage,  
South Carolina Medical Association

Do you think this would have an effect on the calculation of usual and customary fees by the insurance companies? I do.

EEK

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## Diseases of Ecological Progress

During my years in the U. S. Army Medical Corps, it was my privilege and pleasure to become acquainted with a brilliant young Army internist, Major (ultimately Colonel) Robert H. Moser. Dr. Moser ascertained, elucidated, and popularized a new category of disease, "Diseases of Medical Progress,"<sup>1</sup> defined as illness produced by drugs and other therapeutic procedures. Moser included among diseases of medical progress such mundane maladies as penicillin reactions and corticosteroid induced osteoporosis, and such esoteric entities as leucine sensitivity causing "idiopathic infantile hypoglycemia," and the "open negative syndrome" following anti-tuberculosis drugs.

A recent article in the *Journal of the South Carolina Medical Association* stimulated me to suggest a classification of illnesses, "Diseases of Ecological Progress." Sandifer, Keil, and Gadsden<sup>1</sup> reported on organophosphate insecticide poisoning in South Carolina. In this report, the statement is made "with a ban of DDT imminent, an increase in the number of poisonings due to the organophosphates may be anticipated." Thus, DDT being banned for ecological purposes causes an increase in

organophosphate poisonings and a new classification of disease is established! Jumping into mind as other diseases of ecological progress would be salmonellosis resulting from improper organic gardening. Certainly, more fertile minds than mine can add to this list and perhaps truly found a new classification

of disease, "Diseases of Ecological Progress."  
EEK

1. Moser, Robert H., Editor: **Diseases of Medical Progress**, C. C. Thomas, Springfield, 1964.
2. Sandifer, S. H.; Keil, Julian E.; and Gadsden, Richard H.: The diagnosis and treatment of organophosphate insecticide poisoning, *J S Carolina Med Ass* 68:419-421, 1972.

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## OPPORTUNITIES IN SOUTH CAROLINA

WANTED — Medical staff members of the Piedmont Health Care Corporation, newly-established to serve the northwestern region of South Carolina. Opportunity to participate fully in a comprehensive community-based, family-centered health care service program on a team basis with attractive working conditions, income, and liberal fringe benefits. Teaching relationship with family practice residency training program may be arranged. Living in beautiful Piedmont Region of South Carolina is added attraction. Must have or obtain license in South Carolina.

Please send inquiries to:

Terrell O. Carver, M.D.  
Health Services & Medical Director  
Piedmont Health Care Corporation  
Post Office Box 3744  
Greenville, South Carolina 29608

or call collect (803) 836-8136.

Pathologist for Bureau of Laboratories, South Carolina State Board of Health. Supervise laboratory facilities of 200 bed respiratory disease hospital (State Park Health Center) and those State laboratory sections performing hemoglobin electrophoresis, detection of in-born errors of metabolism, cytogenetics, immunology, syphilis serology and implementation of South Carolina Laboratory Licensure Act. Salary plus fringes.

For details, please write to:

Arthur F. DiSalvo, M.D.  
Chief, Bureau of Laboratories  
S. C. State Board of Health  
2600 Bull Street  
Columbia, South Carolina 29201



Among those who took part in the annual meeting and scientific sessions of the American Heart Association in Dallas on November 14-21 were **Dr. Peter C. Gazes** of Charleston, a past president of the South Carolina Heart Association, and **Dr. Frederick E. Nigels** of Myrtle Beach, president-elect of the state association. Also attending were **Dr. R. O. Burgess** of Spartanburg and **Dr. Donald Saunders** of Columbia.

Eleven Charleston physicians presented papers at the annual meeting of the Southern Medical Association in New Orleans. They were: **Drs. Bartley E. Antine**, **William H. Coles**, **F. Johnson Putney**, **Juan A. Brown**, **Leon Banov, Jr.**, **Michael G. Weidner, Jr.**, **Dabney R. Yarbrough, III**, **Paul H. O'Brien**, **David J. Gatti**, **Laurie L. Brown**, and **Woodrow W. Long, Jr.**

In addition to those listed last month, the following South Carolina physicians have been named Fellows in the American Academy of Family Physicians: **Drs. George Bailey**, **Reginald E. Gregory**, **M. Gordon Howle**, **Joseph W. Lemire**, **James E. Lipscombe, Jr.**, **Thomas Parker**, **William H. Thames** and **Charles N. Wyatt** of Greenville; **Drs. Lawrence V. Jowers**, **J. Frank Martin**, **Pierre F. Laborde, Jr.**, and **Samuel R. Shannon** of the Columbia area; **Drs. Benjamin L. Allen**, **James Levi Duncan**, **George W. Price**, and **Robert H. Taylor** of the Spartanburg area; **Dr. Henry W. Gibson** of Barnwell; **Drs. Homer E. Eargle** and **Dr. William O. Whetsell** of Orangeburg; **Dr. Francis B. Adams, Jr.** of Seneca; **Drs. Swift C. Black** and **Dr. Rufus Haynes Cain, Jr.** of Dillon; **Dr. Andrew H. Hursey** of Hartsville; **Dr. Harold J. Elliott** of John's Island; **Dr. Aubrey D. Gantt** of Williston; **Dr. Robert H. Burley** of Clemson; and **Dr. David K. Stokes**, Jr. of Inman.

**Dr. James S. Garner, Jr.** of Mullins has

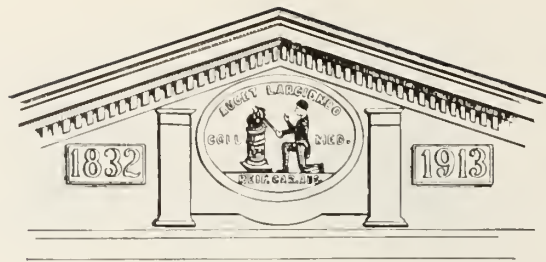
been elected president of the South Carolina Academy of Family Physicians. Other officers elected during their recent 24th annual meeting in Columbia were: **Dr. B. Lewis Barnett** of Mt. Pleasant, vice president; **Dr. Harold W. Moody** of Spartanburg, president-elect; **Dr. Robert L. Ramseur** of Conway, secretary; and **Dr. Walter L. Young** of Hampton, treasurer. Elected to the board of directors were **Drs. J. Gavin Appleby** of St. George, **J. Frank Martin** of Columbia, **James E. Pennell** of Anderson, **Robert H. Taylor** of Spartanburg, and **J. Frank Martin** of Columbia, chairman.

**Dr. Florentina E. Ponce**, instructor in pediatrics at the Medical University of South Carolina, was named to membership in the American Academy of Pediatrics. **Dr. Swaraksha K. Jindal** of the Coastal Habilitation Center of Ladson was named an associate fellow by the organization.

**Dr. James Henning** will shortly open an office to practice family medicine in Moncks Corner. Dr. Henning is a graduate of the University of North Carolina School of Medicine. **Dr. W. Gordon Whitlock** has announced the beginning of a pediatric practice at 135 South Ribaut Road in Beaufort. Dr. Whitlock is a 1960 graduate of the Medical University of South Carolina and did additional work at the Greenville General Hospital, Vanderbilt University, and Charity Hospital in New Orleans. **Dr. James W. Faulk** has announced his association with **Drs. David E. Holler**, **Ralph S. Owings**, and **Martin B. Woodward** for the practice of orthopedic surgery in Columbia.

**Dr. Arnold Denler**, the first doctor to complete the new three-year residency program in Family Practice offered at the Spartanburg General Hospital, has opened an office in the Stokes Medical Building in Inman.





## Medical University of South Carolina

Surgeons from throughout the country gathered at the Medical University of South Carolina for the 46th annual meeting of The Halsted Society. The Society is named in honor of the first professor of surgery at the Johns Hopkins School of Medicine, Dr. William Stewart Halsted, who died in 1922. Dr. Curtis P. Artz, chairman of the Department of Surgery, and Dr. John A. Monerief, vice chairman of MUSC's Department of Surgery, were the local coordinators for the society's first meeting in Charleston.

Founded in 1924, the Society honors Dr. Halsted's contributions to the surgical profession to which he gave a new philosophy and a basic scientific approach to surgery. He is known as the father of the surgical residency program as it is employed today.

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The Waring Historical Library at the Medical University of South Carolina has acquired a 112-year-old diploma of the Medical College of the State of South Carolina. The diploma was awarded to Joseph Milton Perry and has been donated to the library by Mrs. Allyne B. Caro of Tampa, Florida, his granddaughter.

Dr. Perry was born in Liberty Hill, Kershaw County, South Carolina. After graduating from the Medical College in 1960, he served the Confederacy as a member of the Second South Carolina Regiment of Kershaw's Brigade. Several years after the war, Dr. Perry moved to Florida where he had a large general practice. He died there in 1911 at the age of 72.

Other gifts from Mrs. Caro included a catalogue of the Medical College for the 1858-59 session, a tintype photograph of her grandfather and a newspaper clipping.

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Dr. Robert S. McCully, professor of psychology at the Medical University of South

Carolina, has been elected to the Board of Trustees of the C. G. Jung Foundation in New York City. The foundation is dedicated to educational, research, and publishing pursuits. It was established through support from the Paul Mellon family, and operates the New York City Jung Institute, a center for young analysts-in-training.

The foundation sponsors an international lecture series, while its most unique arm is an archive for research in symbolism, with offices in New York and London. The archive is dedicated to furthering the ever-merging aspects of psychology, archaeology, anthropology and sociology.

Dr. McCully is the author of a book that applies the theories of Carl G. Jung, a Swiss psychiatrist, to the Rorschach inkblot images. Jung created his own analytical psychology, which has been the only other depth psychology to rival Sigmund Freud's in influence and worldwide professional following.

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Dr. Curtis P. Artz, professor and chairman of the Department of Surgery at the Medical University, has been awarded the 20th anniversary medal of Poland's Institute of Hematology and Blood Transfusion in recognition of his outstanding contributions to the treatment of burns and control of burn shock.

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The Medical University of South Carolina has announced the appointment of staff members to oversee day-to-day operations of the new Area Health Education Centers (AHEC) program. Dr. Michael G. Weidner, Jr. was named deputy project director of AHEC and Associate Dean for Extramural Programs at the university. He had been professor of surgery and assistant dean for student affairs. Dr. Robert C. Duncan will serve as chief of planning and evaluation.



## **SOUTH CAROLINA REGIONAL MEDICAL PROGRAM**

**VINCE MOSELEY, M.D.**  
Coordinator, South Carolina

### **LOCAL DISTRICT COMMITTEES TO EVALUATE SCRMP GOALS**

The ten Local District Committees of the South Carolina Regional Medical Program will be meeting during November and December to evaluate SCRMP's goals in relation to district health needs.

In addition, the committees will also review current SCRMP projects, SCRMP's project proposals for 1973-74 and recommend other district health needs that might fit into SCRMP's future goals.

A Local District Committee of the SCRMP represents each of the ten planning or development districts across the state. Local health professionals, health leaders and consumers serve as members of local committees.

The Local Committees meet semi-annually and have the responsibility for evaluating local needs and making recommendations to the Medical Districts Committee of SCRMP's Regional Advisory Group.

Local recommendations are then considered in connection with SCRMP's statewide efforts involving health manpower development, primary health care delivery patterns, and regionalization of health facilities, manpower and other resources.

District Committees of the SCRMP work in close association with representatives of local Comprehensive Health Planning Agencies and other health planners.

The series of upcoming local district meetings are being coordinated by James M. Daniel, of Columbia, SCRMP's Assistant Coordinator for Regional Services.

Located at the Medical University of S. C. in Charleston, SCRMP is currently supporting 45 operational projects, planning studies and contracts throughout the state with an award grant of \$1,700,368 for the current fiscal year. Since it started in 1966, SCRMP funding has totalled more than \$8,200,000.

### **NEW SCRMP TV CASSETTE PROGRAMS PROMPT INTERNATIONAL RESPONSE**

The recent announcement of the South Carolina Regional Medical Program starting the use of video cassettes in connection with the operation of its Health Communications Network has prompted international response.

Tim Prynne, the network director, reports requests for the SCRMP produced cassettes on health subjects have been received from such far places as Taiwan and Madrid.

Sources requesting the productions include individual doctors practicing in foreign countries and health organizations in both Canada and the United States.

The video cassette is a hand-sized cartridge in which television program material is electronically stored. The cartridge can be attached to a player about the size of an electric typewriter which in turn is connected to the external antenna terminals of a TV set for viewing.

Located at the Medical University of S. C. in Charleston, SCRMP produces low cost video cassette education programs for use by hospitals, physicians, dentists, nurses, pharmacists and others in the allied health fields.

## VETERANS ADMINISTRATION HOSPITAL NEWS

Dr. Lawrence D. Hanback, Jr. has been appointed Chief of Surgery at the Veterans Administration Hospital. He will also continue to serve as Assistant Professor of Surgery at the Medical University of South Carolina. The announcement was made jointly by Mr. H. F. Moore, Director of the Veterans Administration Hospital, and Dr. William M. McCord, President of the Medical University of South Carolina.

Dr. Hanback has been a member of the Veterans Administration Surgical Staff since 1968 and has served as Assistant Chief of Surgical Service since 1970. The new Chief of Surgery is a graduate of the University of

Richmond, Richmond, Virginia and received his B.S. Degree in 1956. He was awarded his M.S. Degree there in 1959 and earned his Medical Degree in 1961 from the Medical College of Virginia. He served his internship and completed his surgical residency also at the Medical College of Virginia in 1967.

Dr. Hanback is a certified member of the American Board of Surgery, a member of the American Medical Association, the Association for Academic Surgery, Southeastern Surgical Congress, a Fellow in the American College of Surgeons, the South Carolina Medical Association, and the Charleston County Medical Society.

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### HALF OF ALL BLINDNESS CAN BE PREVENTED!

Following the holiday season, the Columbia Medical Society and the Central South Carolina Ophthalmological Society would like to urge the following safety precautions:

- (1) Make sure your children's toys are suitable for their age.
- (2) Exercise extreme caution when children are playing with sharp toys or instruments.
- (3) Do not allow children to play with BB guns, slingshots, or bows and arrows except with adult supervision.
- (4) Avoid use of any fireworks forbidden by law in the community—

when those which are allowed are being used have adult supervision and keep children at a safe distance.

Remember approximately 50 percent of monocular blindness in children is due to accidents. Twenty percent of eye injuries are a result of sharp objects, e.g. toys and seventeen percent result from BB guns, slingshots, and bows and arrows and the remaining result from other injuries. Only you can help in this prevention.

We sincerely hope that you will observe precautions and so help assure that your New Year will be happy and safe.



**CHANGING ASPECTS OF  
MEDICAL AND LEGAL  
PRACTICES**

Nov 5th 1883

State Line

SC

Quattlebaum attorney at Law  
Conway Bor S C

Sir I Wish to Say to you that the trial Justis  
in Floyds township Did take me up fo prac-  
tising medison as a rote Dr and tride to make  
me pay him fifty Dollars and I refused and I  
now wish you to inform me what you think  
about the Case as I wish you to work for me  
let me no rite a way as I never was molested  
in no other State untill I come to S C

yorse truly

Dr. C. H. Senell

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**New Members, SCMA**

**Dr Alton T. Holland**

1111 Mill St.

Camden, S. C. 29020

**Dr. Alan M. Peabody**

129 Mallard St.

Greenville, S. C. 29601

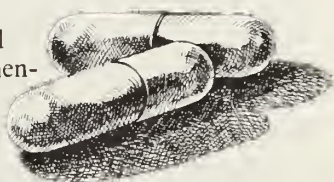
**Because you  
practice  
medicine in the  
Palmetto State...**



You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®

### Helps reduce anxiety-related G.I. symptoms

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



### Patient-oriented dosage — up to 8 capsules daily in divided doses

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

## To help relieve anxiety-linked symptoms in gastritis and duodenitis adjunctive Librax®

ROCHE

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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Roche Laboratories  
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Nutley, New Jersey 07110



# THE EMERGING SPECIALITY OF THE EMERGENCY DEPARTMENT PHYSICIAN\*

WILLIAM T. HAECK, M.D.\*\*

The emergency physician is a unique entity in American Medicine. He was created by public demand. During the 50's and 60's increasing public mobility, decreasing availability of family physicians, and increasing demands of the consumer for immediate care led many individuals to begin to seek care in emergency departments. Visits to emergency departments over a 10 year period rose by 300 per cent in some places.

The hospital and the medical staff of the hospital share a joint responsibility to treat any patient who arrives at the hospital emergency department seeking care. The increasing visit load in the emergency department increased the work load of already busy hospital medical staffs. Many staff members also began to feel uneasy about being responsible for complicated cases they might not have seen or treated since the time they started specializing.

Hospitals and their medical staffs developed two generally accepted plans to meet their obligation to treat emergency patients and to free the medical staff to meet all their other obligations. The plans were named for the cities and hospitals where they first evolved.

The Pontiac Plan ensures that there will be a physician on duty in the emergency department 24 hours a day. This physician and his partners (sometimes as many as 40 or 50) maintain their medical practices and agree to be present in the emergency department when assigned there by the group leader.

The Alexandria Plan is a further refinement. It also guarantees the presence of a physi-

cian(s) in the department 24 hours daily. In this plan, the physicians in the department limit their practice to emergency medicine and their entire medical practice is limited to the emergency department.

Many physicians are now making careers of emergency medicine. They have obtained special training to give them expertise in resuscitation, wound care, correction of shock, acute heart problems and many acute and common problems of every day medical practice. Their practices involve stabilization of acute problems and initial treatment of non-life-threatening problems and referral of the patient for definitive care. In many instances, the emergency department is now the point where patients enter the health care system.

Many emergency physicians are serving their communities by actively becoming involved in stimulating their communities to upgrade and improve the total emergency medical services system in the community. They are often in the battle lines fighting for improved ambulance services. Many are out in the community teaching the principles of good first aid and cardiopulmonary resuscitation. They are involved in training ambulance attendants and are involved in the struggle to bring local, state and federal laws up to date to legislate the improved EMS systems this country needs.

Organized medicine is starting to recognize the expertise of the emergency physician. Some state medical societies recognize emergency medicine as a specialty. Medical schools are beginning to train young physicians in emergency medicine as a primary career.

The emergency physicians have organized to form the American College of Emergency Physicians. It now has over 3,000 members.

\*Emergency Medicine Today, Commission on Emergency Medical Services, American Medical Association.

\*\*Project Director, Emergency Medical Services Section, Division of Health, State of Florida

University Emergency Department Physicians have organized the University Association for Emergency Medical Services. Both groups are fighting for better emergency care for the

American public through better training for emergency physicians, better quality emergency departments and better community emergency medical care systems.

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#### DESCRIPTION OF PROGRAM

- TITLE:** Postgraduate Seminar on Emergency Medicine
- DATE:** March 21-24, 1973
- PLACE:** Playboy Plaza Hotel, Miami Beach, Florida
- SPONSOR:** Florida Chapter, American College of Emergency Physicians  
Emergency Department Nurses Association
- CO-SPONSOR:** University of Miami School of Medicine
- DESCRIPTION:** This four-day program is designed to present current pertinent and practical information for those most intimately involved in delivering emergency medical care — the emergency physician, general and family physician, emergency nurse, hospital administrator, emergency medical technician, and community health planner. The latest knowledge and technology in emergency medicine will be surveyed by the guest faculty. Each registrant will receive a complimentary copy of the seminar's proceedings.
- INFORMATION:** Contact: J. Clifford Findeiss, M. D.  
Florida Chapter, American College of Emergency Physicians  
Postgraduate Seminar on Emergency Medicine  
11130 S. W. 173rd Terrace  
Miami, Florida 33157

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#### DEATH

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##### **DR. T. H. SYMMES**

Dr. Thomas Henry Symmes, 85, died at Fairfield Memorial Hospital on November 4 after a long illness. Born in St. George, Dr. Symmes graduated from the Medical University of South Carolina and had been a general practitioner in St. Matthews for 62 years.

**ABSTRACTS FROM THE TWELFTH ANNUAL MEETING,  
SOUTHERN SOCIETY OF ANATOMISTS, John E. Pauly, President.  
Presented November 15-18, 1972, University of Arkansas Medical Center,  
Little Rock, Arkansas.**

The following abstracts are all erudite, most are interesting, some are esoteric. Please read them and let me know what you think. *The Journal of the South Carolina Medical Association* has the possibility of making an ongoing arrangement to publish abstracts of the yearly meeting of the eminent Southern Society of Anatomists.

Editor JSCMA

BARRETT, C. P., and J. M. BROWN, *Departments of Anatomy, School of Medicine, and Physiology, School of Dentistry, University of Maryland at Baltimore, 21201. A comparison of the critical point and air drying methods for preparation of skeletal muscle specimens for scanning electron microscopy.*

Mouse skeletal muscle routinely processed and dried by the critical point method (CPM) or by exposure to ambient air revealed the following in the scanning electron microscope. The CPM largely reduced effects attributable to surface tension, but the outlines formed on the sarcolemma by intracellular components were barely discernible. In contrast, the air dried specimens showed A and I bands, Z disks, myofibrils, and nuclei. Further, in the air dried, but not in the CPM dried specimens, the A and I patterns differed, depending on the state of relaxation or contraction of the muscle. Thus, in maximally contracted muscle, the I band appeared elevated and the A band depressed; while in minimally contracted muscle, the I band appeared depressed and the A band elevated. This may result from differences related to the transitory changes in the arrangement of the myofilaments. Finally, in air dried, but not in CPM dried specimens, artefactual widening of transverse tubule openings possibly occurred, thus revealing the sites at which they are present. For skeletal muscle, therefore, the air drying method may be superior to the CPM.

(Supported by American Cancer Society, Md. Div., Bressler Reserve Fund, and by the Center for Materials Research, Electron Microscope Facility, University of Maryland, College Park, Maryland)

BARRETT, J. Michael, Paul M. HEIDGER, and Samuel W. KENNEDY, *Department of Anatomy,*

*Tulane University School of Medicine, New Orleans, Louisiana 70112, Bismuth as a stain for electron microscopy.*

A method is described for enhancing contrast in thin sections using bismuth. The stock solution is prepared according to the technique described for the cytochemical localization of ferritin by Ainsworth and Karnovsky (1972), in which bismuth subnitrate (Mallinckrodt) is chelated by the addition of sodium tartrate in 2N NaOH. The stock solution is diluted 1:50 with distilled water.

In our laboratory, satisfactory results have been obtained when this preparation is used after staining with uranyl acetate and lead citrate. Grids are floated upon a drop of the dilute solution for one hour and are rinsed in several changes of distilled water. This sequence gives a marked enhancement of both cytomembranes and nucleoproteins.

(Supported by grants from NIH: HD06207 and GM00793.)

BERNARD, G. R., *Department of Anatomy, Texas Tech University School of Medicine, Lubbock, Texas. Experiences with "Prosection Demonstrations" in the Gross Anatomy Laboratory: objectivity and subjectivity in evaluating a learning process.*

In 1971 the 154 first year medical students at the Medical College of Georgia were separated into three groups of approximately equivalent "abilities" as measured by collegiate grade point quotients and cumulative MCAT scores. A different senior faculty member and graduate assistant were assigned to each group. Two of the groups dissected in the conventional way — eight students per cadaver. The third group completed the same dissections, but a pair of students at each table was responsible for prosecting the body and presenting their findings to their six colleagues and an instructor at each of 32 assigned laboratory periods. This "experimental" group took the same practical examinations as the two "control" groups. All three groups took the NBME Unit Specific Exam in Gross Anatomy. There were no significant differences between the three groups in the latter examination, but the experimental group performed significantly better than either of the other two groups in the Head and Neck practical examination and significantly better than one of the other groups on the Pelvis and Lower Extremity practical examination and the other group on the Trunk prac-



tical examination. The amount of time expended by students in making dissections and in learning anatomy from the cadaver, experiences with "peer evaluation," experiences with a new group of students at another institution, and general impressions of the successes and limitations of this learning technique will be presented.

BLACK, Asa C., Jr., and G. Rodman DAVENPORT, Dept. of Anatomy, Vanderbilt University, Nashville, Tenn. 37232. *The Use of 2, 4-Dinitrophenylhydrazine Derivatives in Steroid Analysis.*

2, 4-Dinitrophenylhydrazine (2, 4-DNP) has been used as a reagent for the characterization and determination of carbonyl groups for many years. In the last several decades, 2, 4-DNP has been used in the characterization and determination of ketosteroids. The development of thin-layer chromatography has further extended the scope and power of this technique, making it possible to analyze the spectrum of steroids produced by endocrine tissues. This paper reports the development of a system for the purification and separation of steroids and their 2, 4-DNP derivatives. The physical and spectral properties of the ovarian steroid derivatives are presented, and the correlation between the two defined. A preliminary application of this procedure to a study of ovarian interstitial cell mitochondrial progesterin synthesis will be discussed.

(This work was supported in part by U. S. P. H. S. Research Career Program Award 5-K03-HD-11171 (G. R. D.), and by U. S. P. H. S. GM-00085 Pre-doctoral Grant (A. C. B.), and by U. S. P. H. S. Anatomical Training Grants 2-T1-GM-85-09 and 5-T01-HD00090-06.)

CALHOUN, C. L., Department of Anatomical Sciences, Meharry Medical College, Nashville, Tennessee. *A Case of Carotid Hypoplasia.*

Cerebral infarction may be due to occlusive disease of the extracranial portion of the internal carotid arteries. Manifestations of cerebral vascular insufficiency may be caused by obstruction of the carotid arteries related to arteritis, kinks or loops. Cerebral ischemia caused by hypoplasia of the internal carotid artery was first reported in 1965. A 31-year-old female developed cerebral infarction two weeks after a head injury and had a hypoplastic right internal carotid artery shown by angiography. She was admitted to the Meharry-Hubbard Hospital on February 24, 1970, complaining of progressive weakness on the left for one week. She had sustained a head injury one week before admission. Examination revealed normal vital signs with a mild aphasia, left central facial paresis and a left hemiparesis and hypalgesia with a left Babinski toe sign. Laboratory findings showed normal skull and chest x-ray films with the EEG showing right cerebral slowing. An angiogram revealed hypoplasia on the right internal carotid artery. Surgical exploration confirmed the hypoplastic narrowing of the artery and no surgical procedure was attempted.

In 1913 Fisher could find only seven published

cases and added one other. Turnbull reported a case of agenesis of the internal carotid artery in 1962 and found 15 additional cases in a review of the literature. Further review of literature revealed a total of 31 cases with 25 being unilateral.

Only 25 other cases have been recorded. The cause of hypoplasia is not definitely known, though occlusion at an early age or anomalous embryonic development are possibilities. Probably the dorsal aortic root either failed to reach normal size or decreased in size after reaching full development.

CANE, L. S., and C. P. SIGDESTAD, Departments of Anatomy and Radiology, University of Louisville, Kentucky. *The effects of chemical radiation protection on the intestinal epithelium of the mouse.*

Hundreds, perhaps thousands, of chemical compounds have been tested for radioprotective action. For the most part, our knowledge of these drugs is restricted to their ability to protect against the radiation-induced hematopoietic death. Relatively few have been concerned with the so-called gastrointestinal syndrome. The purpose of this investigation was to correlate the histological findings with intestinal crypt survival curves three days after irradiation in protected and unprotected animals.

Mice (C57/B16J) were injected intraperitoneally with S-2-(3-aminopropylamino) ethylphosphorothioate (WR-2721, 500 mg/kg) and x-irradiated fifteen minutes later. Intestinal crypt survival was tested three days later. The protected groups showed a marked increase in resistance to radiation. The histological study of the intestinal epithelium showed similar results.

CHRISTIAN, E. L., and R. L. MONTGOMERY, Department of Anatomy, University of North Carolina, Chapel Hill, North Carolina. *Hyperreactive behavior influences brain and heart catecholamine concentrations: A conclusion based on spectrophotofluorimetric studies involving norepinephrine and dopamine concentrations in brains and hearts of septally lesioned rats.*

Holdstock (*Neuropsychologia* 8:147-160, 1967) reported that septally lesioned (hyperreactive) animals, when compared with controls, exhibited smaller initial heart rate acceleration and smaller galvanic skin reactions in response to shock. These data indicated that the hyperreactive behavior in septally lesioned rats was not mirrored by autonomic hyperactivity.

Brain norepinephrine of rats with septal lesions was significantly decreased when compared with the sham-operated animals ( $P < .001$ ). Dopamine concentrations in brains of these experimental animals, however, were significantly increased when compared with the sham-operated group ( $P < .001$ ). The altered brain catecholamine levels also were reflected in the heart studies. Heart norepinephrine was decreased, but not at a significant level. Heart dopamine concentrations were significantly increased ( $P < .001$ ).

The decreased brain and heart norepinephrine con-

centrations confirm Holdstock's data which indicated that hyperreactive behavior was not necessarily associated with autonomic responses. Significantly increased levels of brain and heart dopamine in septally lesioned rats may indicate that a specific brain lesion can influence a particular behavioral-catecholamine response.

(This study was supported by the North Carolina Heart Association, Inc., and by the United Services of North Carolina, Inc., #VB089.)

CLARK, A. D., H. PUCHTLER and F. S. WALDROP, *Department of Pathology, Medical College of Georgia, Augusta, Georgia. Intimal hyperplasia in the renal arterial system of children and adolescents.*

Intimal thickening in arteries of children was described already by Remak in 1850. The nature of these alterations—whether they are reactions to hemodynamic stress, early arteriosclerosis or physiological intimal cushions—is still the subject of controversy. If these thickenings are indeed physiological, they should be found regularly in children and young adults.

Kidney sections from 64 human autopsy cases up to 20 years of age were studied. Observations in areas of branching and in other arterial segments were tabulated. The findings then were correlated with data on sex, race and clinicopathological diagnoses.

Eight cases ranging in age from a deadborn infant to an 18-year-old showed no intimal thickening. Slight to moderate alterations were found in other cases throughout the age range studied. Severe intimal hyperplasia was observed in six cases. Lesions were more severe in areas of branching than in other arterial segments. There was no significant correlation between sex or race and degree of intimal hyperplasia. Severe lesions seemed to be more frequent in certain chronic diseases.

This study suggests that intimal hyperplasia in children is not physiological but seems to be influenced by diseases and other factors.

(Supported by USPHS Research Grant HL 12147 from the National Heart and Lung Institute and General Research Support Grant FR-5365.)

COSTOFF, A., J. C. ELDRIDGE, and V. B. MAHESH, *Department of Endocrinology, Medical College of Georgia, Augusta, Georgia. Serum gonadotropin and prolactin levels and ultrastructural studies of the pituitary gland in PMSG treated rats.*

Serum FSH, LH and prolactin levels were measured in rats primed with pregnant mares serum gonadotropin (PMSG) at 30 days of age using the NIAMD radioimmunoassay kit. The surge of FSH began at 12:00 noon on day 32 with a peak at 6:00 P.M. that continued into the next day, while the LH peak was reached at 4:00 P.M. The serum levels of prolactin also began to rise at 12:00 noon on day 32 but did not reach a peak until 8:00 A.M. of day 33. FSH cells were well granulated at 12:00 noon and at 4:00 P.M. on day 32. At this time many

FSH cells exhibited extensive Golgi complexes, hypertrophied vacuolar endoplasmic reticulum and often times greatly swollen mitochondria. At 7:00 P.M. of day 32 many FSH cells were in various stages of degranulation. LH cells were enlarged and well granulated prior to 12:00 noon of day 32 but thereafter appeared degranulated. On day 31 prolactin cells were enlarged and well granulated. Although these cells contained extensive endoplasmic reticulum and Golgi complexes, there were a few mature granules during day 32 and in the early morning hours of day 33. At 1:00 P.M. of day 33 most of the FSH and LH and some prolactin cells were again granulated.

(Supported by NIH research contract #70-2149.)

DICKSON, K. L., *Department of Anatomy, University of Tennessee Medical Units, Memphis, Tennessee. The cytochemical localization and quantitation of pineal biogenic amines.*

The present study has demonstrated the presence of specific catecholamines and indoleamines in rat pineal glands. By the glutaraldehyde-dichromate cytochemical reaction, reactive dense granules were usually surrounded by membranes and most often located within, or adjacent to, intercellular spaces which channeled throughout the pineal parenchyma. Granules have not yet been related to specific organelles; but they have been observed in peripheral regions and within pinocytotic invaginations of pinealocytes, in pericapillary spaces, and in pinocytotic vesicles within capillary endothelial cells. These findings were highly suggestive of a pineal secretory mechanism whereby neurosecretions were released from cellular processes in route to capillary beds. Granule density was demonstrated by a quantitative cytophotometric method. Cytochemical granules in animals injected with reserpine showed a decrease in density as compared to controls; whereas blinded and animals injected with a monoamine oxidase inhibitor (Nydrazid) showed an increase in granule-density. Preliminary chromatographic electrophoretic, and *in vitro* precipitation analyses conducted on pineal extracts suggested that the electron-opaque dichromate-granules might be 5-hydroxyindoles (their amines and acetic acids), 5-hydroxytryptophan, and the catecholamines (norepinephrine and epinephrine). These results also were correlated with serotonin levels analyzed from pineal extracts prepared with 0.4N Perchloric Acid. Reserpine-treated animals showed a decreased serotonin content whereas blinded and Nydrazid-treated animals showed an increase in tissue serotonin.

(Supported by Public Health Service Training Grant No. GM-00200-11.)

ENDLOW, D. H., *Department of Anatomy, West Virginia School of Medicine, Morgantown, West Virginia. Studies on Facial Form and Pattern.*

The conventional approach used to study the morphogenesis of the postnatal craniofacial skeleton is based on cephalometric methods involving measurements of planes and angles using standard an-



thropometric radiographic landmarks. This is useful primarily in population-type studies; since anatomic and developmental relationships are identifiable only by comparisons with statistical values and standards derived from large samples of individuals. The method of study used in the present report is based on an approach that does not require such population comparisons or the use of anatomically or morphogenetically irrelevant radiographic landmarks. This approach involves comparisons of certain skeletal parts within the craniofacial composite with other specific parts in that same individual in order to determine the actual nature of anatomical fit and resultant topographic effects as seen in that particular individual's own facial form and pattern. Using this method, variations in facial types are described, and the fundamental structural and developmental bases underlying these types are explained. Differences in facial structure related to age, sex, and ethnic differences are also described, and the basis for malocclusions and facial dysplasias are discussed.

GANGAROSA, L. P., and M. SHARAWY, *Departments of Oral Biology, Anatomy and Pharmacology, Medical College of Georgia, Augusta, Georgia. Possible role in ATP vasodilation of a myosin-like substance in capillaries physiologic and histochemical studies.*

Studies in isolated thigh muscles of anestheized dogs verified that ATP, ADP and adenosine caused an immediate increase in blood flow with a simultaneous fall in peripheral resistance. Acetylcholine also caused a similar effect as the adenylyl compounds. In histochemical studies it was found that endothelial cell lining of skeletal muscle capillaries have a circumferential layer of a myosin-like substance surrounding the capillary lumen which stains with TP-levalanol fast cyanin 5RN (Puchler, H., et al. *Histochem.* 21:97, 1970). It was postulated that the contractile-protein of the endothelium may be responsible for maintaining capillary diameter and therefore contribute to peripheral resistance. Furthermore, some vasodilators might act on such a mechanism. To test this hypothesis some limbs were perfused with an acetate-buffer (pH 4.2) in order to extract myosin-like protein (method of Corsi, A. & Perry, S. V. *Biochem. J.* 68: 5, 1958). Following the perfusion the adenylyl compounds were no longer effective in causing vasodilation, while acetylcholine was still effective. Histochemical studies of the perfused limbs showed that the acetate buffer did alter the staining properties of the capillary endothelial cells, suggesting a possible correlation to blood flow changes induced by adenylyl compounds.

HERDMAN, P. R., and J. J. TAYLOR, *Department of Anatomy, Saint Louis University School of Medicine, Saint Louis, Missouri. The selective impregnation of axons in fresh frozen sections.*

A silver impregnation technique for fresh frozen sections is presented. The method selectively impregnates axons while effectively suppressing the impregnation of connective tissue elements. The silver

impregnation method used was a modification of the standard Holmes (1947) technique. Fresh tissue was cut into slices not thicker than 2 or 3 mm and immediately was quenched in isopentane cooled to  $-160^{\circ}\text{C}$  in liquid nitrogen. Frozen sections were cut at 10 to 20 microns, mounted on slides and immediately placed into formol sublimate fixative for 15 to 30 minutes. The mercury salts were removed by treatment with standard alcoholic iodine and sodium thiosulfate solutions. The sections were washed and then impregnated via the Holmes (1947) method. The tissues used in this study were kidney, lymph node, spleen, heart, skeletal muscle, small intestine and brain of the albino rat. The results showed a discrete impregnation of axons in all tissues studied. However, there was no impregnation of connective tissue fibers or of nuclear or cell membranes. The results always were reproducible and uniform, even in the highly reticular tissues. Studies are in progress to determine the factors that cause the suppression of connective tissue impregnation.

(Supported by General Research Support Grant FR-05388 of the USPHS.)

HINTON, D. E., P. L. THURMAN, and P. P. BIDWAI, *Department of Anatomy, University of Louisville Health Sciences Center, Louisville, Kentucky. Alteration in liver and kidney of channel catfish following dietary administration of methyl mercury.*

Environmental accumulation of mercury, particularly the methylated forms of the metal, has been of considerable concern. Aquatic bacteria are capable of converting inorganic salt to the organic salt, methyl mercuric chloride. This form of mercury is readily absorbed by aquatic biota; and as fish feed upon lower trophic levels, tissue concentration of the toxin occurs. Currently federal guidelines permit 0.5 parts per million mercury in fish sold in interstate commerce. This study was undertaken to establish the alterations in fish tissues following dietary consumption of similar concentrations of methyl mercury. Channel catfish (*Ictalurus punctatus*, Rafinesque) were fed a diet containing 0.67 ppm mercury for 6 weeks. Tissues were analyzed for mercury content by atomic absorption spectrophotometry, and histologic study of liver and kidney was performed. At the termination of the experiment, mean concentrations of mercury (ppm) were 1.28 and 0.8 for liver and kidney respectively. Histologic examination revealed extensive necrosis throughout liver tissue, although alterations were more pronounced in portal zones. Thickening of glomerular basement membrane and tubular degeneration, particularly in distal tubules, were observed in kidney. In addition, marked hypocellularity in interstitial hemopoietic tissue was observed. The data indicate a need for evaluation of current standards in relation to mercury levels in fish tissue.

ITAYA, S. K., *Department of Anatomy, University of Tennessee Medical Units, Memphis, Tennessee. The fine structure of the accessory pigment spot in the*



prawn, *Palaemonetes vulgaris*.

The accessory pigment spot of *Palaemonetes vulgaris* is a small compound eye adjacent to the principal compound eye on the eyestalk. It is an apposition eye and is separated from the compound eye by pigment granules. The accessory pigment spot consists of corneal facets and corneal cells, crystalline cone cells and the crystalline cone, and pigment cells and reticular cells. Parts of the reticular cells form the photoreceptor apparatus, the rhabdom; and the proximal portion of the reticular cells are continuous as axons toward the lamina ganglionaris. The rhabdom is made up of alternating layers of microvilli from seven reticular cells in the pattern found in many crustacean compound eyes.

JONES, David S., and Deborah J. McCLOUD, Department of Anatomy, West Virginia University Medical Center, Morgantown, West Virginia. *Studies on the human sigmoid colon.*

The etiology of diverticula of the colon, which may occur in as many as one-third of the elderly, is still not understood. Since intraluminal pressure is no doubt the major factor in producing diverticula, we decided to observe the colon while steadily increasing such pressure. Approximately two feet of descending and sigmoid colon was removed at autopsy. Water was run into the colon while the pressure was measured with a transducer connected to a grass polygraph. We hoped that by observing the distention to the point of rupture that we might get some idea of how diverticula develop.

In twenty specimens studied the range for rupture was from 90 to 280 cms. of water, the average being 192. Seventeen ruptured along the mesenteric attachment, usually into or near an appendix epiploica. The ruptures were mostly between tenia coli except for three which tore through a tenia. Although seven of the specimens had diverticula, in no case did a diverticulum rupture.

Although in diverticular development the mucosa pushes thru the muscular wall, we could not observe such a process. All layers of the wall seemed to give away simultaneously. We concluded that the colon soon after death will rupture with an average intraluminal pressure of 192 cm of water, and that the thin walls of the diverticula will withstand more pressure than the wall of the colon.

LANGMAN, J., J. ANDREOLI, and P. RODIER, Department of Anatomy, University of Virginia, Charlottesville, Virginia. *The influence of a post- and prenatal trauma on Purkinje cells.*

The purpose of the first experiment was to examine the effect of 5-FuDR (a DNA-synthesis inhibitor) on prenatal Purkinje cell formation in the mouse. Pregnant mice were treated on days 11, 12 and 13 of gestation (that is the days Purkinje cells are formed) with various doses of fluorodeoxyuridine and the cerebellum of the embryos examined at various times after treatment. Five hours after treatment cells with darkly stained nuclear clumps appeared, and mitotic activity ceased. At 12 hours

after treatment mitotic activity was still low, and large numbers of affected cells were found in the neuroepithelium of the rhombic lip. By 24 hours abnormal cells had disappeared, mitotic activity had returned to normal values and the neuroepithelium had regained its regular continuity. Treatment on day 12 led to a significant deficit of Purkinje cells in all lobes of the mature vermis, while treatment on day 13 caused a deficit in the anterior lobes only. Although the Purkinje cell deficit was accompanied by a substantial reduction in the size of the cerebellum, no changes in the overall cytoarchitecture of the cerebellum were noted. In the second experiment 5-FuDR was given to 2-day old mice; that is the time that basket, stellate and granule cells are formed by the external granular layer. In particular in the anterior lobes, destruction of the external granular layer was almost complete and repair minimal. The Purkinje cells were dispersed throughout the molecular layer and frequently showed a centrally directed dendritic tree. In posterior lobes the FuDR damage was repaired to a considerable degree, and Purkinje cells were in normal position. Hence, FuDR treatment during postnatal life had more damaging influence on the position and structure of Purkinje cells than a prenatal trauma.

(Supported by NIH grant NS06188.)

LUCAS, E. A., K. C. LIU, W. ST. JOHN, J. K. SHERMAN, and E. W. POWELL, Department of Anatomy, University of Arkansas Medical Center, Little Rock, Arkansas. *Effect of anoxia upon cortical ultrastructure: preliminary report.*

Changes in cat cortical ultrastructure (reduction and clumping of synaptic vesicles) have been reported following 4 minutes of ischemia (Williams and Grossman, Anat. Rec., 166: 131-142, 1970). In the present study, similar changes in cat brain ultrastructure were seen following 7 minutes of anoxia produced by terminating artificial ventilation in 2 acute animals under Nembutal and succinylcholine anesthesia. The animals were monitored for EEG, EKG, respiratory rate and end-expired CO<sub>2</sub> throughout the experiment to insure adequate ventilation prior to anoxic onset and to determine the acute effects of anoxia upon the EEG. Biopsies of sensorimotor cortex were taken prior to anoxia onset and 2, 4, 7 and 90 minutes later. Ventilation was resumed after the 7 minute sample, and all electrographic parameters were recorded for the next 2 hours. The EEG went "flat" within 90 seconds (50  $\mu$ v/cm) and remained flat in one animal with recovery to an abnormal tracing in the other animal (reduction in slow waves of interspindle interval). Electron-microscopy revealed no structural changes in myelin tubules and synapses of the cortex compared with control tissue after 7 minutes of anoxia and after 90 minutes of recovery. A slight swelling of the cristae of the mitochondria and clumping and reduction in number of vesicles in the 90 minute sample were seen. This is interpreted to mean that irreversible

brain damage (abnormal EEG) and even brain death (failure to recover) occurred in these animals with only slight ultrastructural changes.

(Supported by National Science Foundation GB-3217).

MARTIN, G. F., and R. DOM, *Department of Anatomy, The Ohio State University, Columbus, Ohio. An experimental study of ascending cerebellar projections in the opossum, Didelphis marsupialis virginiana.*

The projections of the deep cerebellar nuclei were studied in 30 opossums by employing the Fink-Heimer technique. In cases of caudomedial fastigial nucleus destruction, degenerating axons were located lateral to the medial longitudinal fasciculus of both sides and were distributed to the periaqueductal gray, the deep superior colliculus, the parafascicular and the ventromedial thalamic nuclei. Lesions of the anterior interpositus nucleus produced extensive terminal degeneration within the contralateral red nucleus (particularly its caudal 1/3) as well as a lesser amount within the periaqueductal gray, the superior colliculus, the pretectal area, the nucleus of the posterior commissure, the subthalamus, the ventrolateral thalamic nucleus and the nucleus "C". Although posterior interpositus lesions produced degeneration in many of the same areas, that within the red nucleus was limited to its medial extreme; and additional terminal debris was located within the medial ventrobasal thalamic nucleus and the ventral anterior nucleus of the thalamus. Destruction of the dentate (lateral) cerebellar nucleus produced degeneration within the red nucleus which was limited to its rostral, dorsal sector. Degenerating fibers were more numerous in the superior colliculus and the nucleus of the posterior commissure than in the other cases, and additional terminal degeneration was located within the nucleus of Darkschewitsch and the medial half of the ventral lateral geniculate nucleus.

(Supported by USPHS grant NS-07410.)

MELOAN, S. N., H. PUCHTLER, and L. S. VALENTINE, *Department of Pathology, Medical College of Georgia, Augusta, Georgia. Investigation of fluorescence with visible exciting light 400-600 nm).*

Fluorescence microscopy of stained sections usually is carried out with UV or UV-blue light. Many strongly colored dyes show only faint to moderate fluorescence in UV-blue light. The major absorption bands of such dyes are in the visible range. Because the cut-off points of UV and UV-blue exciter filters are at 400 and 450 nm respectively, the emission bands of the mercury arc between 430 and 600 nm cannot reach the dye. However, only light within the absorption bands of a dye can trigger fluorescence. We therefore studied the fluorescence of stained sections during exposure to visible light (400-600 nm).

Methacarn-fixed paraffin sections were stained with various dyes. An optical glass filter WG-345/3 nm and interference filter 554 were used as exciter filter. A Kodak Wratten filter #29 was employed

as barrier filter. Conventional UV-blue illumination was used for comparative studies.

Many dyes which showed little fluorescence in UV-blue light were strongly fluorescent in longer wave visible light. Unstained tissues were non-fluorescent; thus, small fluorescent structures stood out clearly against the dark background.

This pilot study indicates that use of long-wave exciting light extends the range of dyes suitable for fluorescence microscopy.

(Supported by USPHS Research Grant 3 HL 12147 from the National Heart and Lung Institute and General Research Support Grant #FR-5365.)

MILLER, James A., Jr.,<sup>\*</sup> and Manfred KESSLER, *Department of Anatomy, Tulane University School of Medicine, New Orleans, Louisiana and Max Planck Institute für Arbeits Physiologie, Dortmund, Germany. Tissue PO<sub>2</sub> levels in the liver of warm and cold rats artificially respired with different mixtures of O<sub>2</sub> and CO<sub>2</sub>.*

Using Kessler's multi-electrode units, tissue PO<sub>2</sub> levels were determined for intact and undamaged livers of rats artificially respired with different mixtures of O<sub>2</sub> and CO<sub>2</sub>. In coenothermic<sup>\*\*</sup> controls there was evidence of active modulations of blood flow by sphincters, each of which monitors a small number of liver lobules. Increases in tissue PO<sub>2</sub> were seen with each increase in CO<sub>2</sub> between 5% and 40% CO<sub>2</sub>. This occurred when O<sub>2</sub> was kept constant and was independent of CO<sub>2</sub> effects upon respiratory effort and upon blood pH. Since normally the area around the central vein is subjected to the lowest PO<sub>2</sub>, these studies suggest the possibility that breathing high O<sub>2</sub> and CO<sub>2</sub> mixtures might be of benefit in the treatment of a variety of conditions in which liver hypoxia or central lobular necrosis is threatened. In hypothermic rats (between 25° and 15 C body temperature) artificial respiration with 20% O<sub>2</sub> produced vasoconstriction with attendant low tissue PO<sub>2</sub> levels. At 25°C body temperature, maximum liver PO<sub>2</sub> levels resulted from breathing 15% O<sub>2</sub> and 5% CO<sub>2</sub>. When body temperatures 20°C, 10% O<sub>2</sub> and 15% CO<sub>2</sub> gave maximum liver PO<sub>2</sub> levels, and 5% O<sub>2</sub> and 30% CO<sub>2</sub> gave highest readings when the rats' temperatures were at 15°C. These studies suggest that, for optimal tissue perfusion during cooling, reduction of O<sub>2</sub> and increase in CO<sub>2</sub> should be carried out *pari passu* with induction of hypothermia.

<sup>\*\*\*</sup> Fulbright Research Scholar in Germany, 1972

<sup>\*\*</sup> Coenothermic = euthermic = normothermic but is preferred (c. f. Miller 1966).

ODOR, D. L., *Department of Anatomy, Medical College of Virginia, Virginia Commonwealth University, Richmond, Virginia.*

*Ultrastructural observations on atresia in whole organ cultures of fetal mouse ovaries.*

Whole organ cultures (165) of 16-day fetal mouse ovaries were harvested after 2 to 89 days of *in vitro* cultivation and were processed for electron micros-



copy. Oocytic growth, zona pellucida formation and development of follicles are normal to varying degrees. In small oocytes without zonae pellucidae early subtle degenerative changes include the early appearance of lysosomal-like bodies and enlargement of some of the mitochondria with vesticulation of their cristae; later all organelles decrease in number. The first indication of atresia in larger oocytes with zone pellucidae is the withdrawal of oocytic microvilli and follicular cell processes from the zona pellucida. Phagocytic stromal cells replace, at least in part, the follicular cells covering the zona pellucida. Subtle ooplasmic changes include the appearance of lysosomal-like bodies, of enlarged and sometimes vesiculated mitochondria, of bundles of cytoplasmic filaments and of lipid droplets. Advanced atresia is the same in oocytes with and without zonae pellucidae. Nuclear contents, cytoplasmic matrix and mitochondrial matrix increase in density. Dilated profiles of endoplasmic reticulum and electron-lucent vacuoles are numerous. Eventually the only remnant of a large oocyte is its crumpled zona pellucida, usually surrounded by phagocytic stromal cells. The main alteration of follicular cells is the accumulation of complex dense lysosomal-like bodies. Although most oocytes degenerate, follicular and stromal cells may remain viable for 89 days.

(Supported by USPH grants HD-04827 and HD-03752.)

OGLIVIE, R. W., and R. C. PENNINGTON, *Department of Anatomy, Medical University of South Carolina, Charleston, South Carolina. The canine lingual frenulum as an ix vivo microcirculatory modeling system.*

Many methods have been used to study microcirculatory phenomena. Each method and each species used imposes limitations on the information that can be obtained by experimentation. In studies of the microcirculation it is desirable to eliminate the effects of surgery and bathing with saline or ringer's solution, but at the same time it is desirable to study a vascular bed which is thin and flat. We have developed a microcirculatory model using the frenulum of the dog's tongue which can be prepared without surgery as a thin membrane that does not require bathing, yet capillary circulation can be investigated. The area of the tongue frenulum used is composed of a thin layer of connective tissue rich in blood vessels and covered on either side by a non-keratinized stratified squamous epithelium which provides one with a thin transparent vascular bed that is naturally resistant to drying and exposure.

Direct *in vivo* observations of the frenulum microcirculation reveal a pattern which is typical of mammals. Arterioles 100 microns in diameter and smaller are present. Capillaries are numerous and are arranged in an irregular network. Venules 200 microns in diameter and all tributaries associated with that size of venule can be observed. Blood flow can be followed from an arteriole through capillaries into a venule.

Television microscopy and videotape recording are used for observations and recordings of the microcirculation. The raw data is thus available for later analysis and documentation of the otherwise highly subjective impressions of transient changes.

The technical procedures will be described and some results will be reported.

O'STEEN, W. K., and K. V. ANDERSON, *Department of Anatomy, Emory University, Atlanta, Georgia. Visual responses in rats without photoreceptors.*

Retinal photoreceptor cells degenerate and are removed from the eyes of albino rats kept in a continuous, low-level fluorescent or incandescent light environment as commonly found in animal rooms. Other retinal cells, such as pigment cells and bipolar and ganglion neurons, do not appear to be affected by light exposure. Electroretinograms (ERGs) decreased in amplitude during the first 4 days of exposure; A waves were reduced after 24 hours and absent after 48 hours of exposure. B waves were absent after 4 days of exposure. ERG recovery occurred if rats exposed to light for less than 4 days were returned to darkness. Rats without photoreceptors performed at high levels on visual discrimination tests involving both black-white and pattern tasks and had the ability to learn the tests prior to and after photoreceptor destruction. Olfactory taste, auditory, and thermal cues were rigorously controlled. Rats in which both the pigment epithelium and photoreceptors were destroyed by exposure to continuous, intense light and high body temperatures readily performed at high levels in both black-white and pattern tasks.

These results strongly suggest that retinal elements other than the classical receptor cells are sensitive to light and that the pigment epithelium does not have an essential role in the mediation of visually guided behavior in animals without photoreceptors.

PAULY, John E., E. Robert BURNS, Stanley TSAI, and Lawrence E. SCHEVING, *Department of Anatomy, University of Arkansas Medical Center, Little Rock, Arkansas. Synchronization of the circadian system in the mouse by feeding schedules.*

It is well known that the circadian system of rodents has evolved with the capability of being synchronized to the light-dark cycle of nature or the artificial one of the laboratory. The practical aspect for the researcher is that he can place his animals under a fixed light-dark cycle and determine the phasing of any rhythmic variable; and, thereafter, by using the same standardized conditions, he can accurately predict when any phase of the rhythm will occur in relation to local clock time.

The primary synchronizing force in man is the societal routine. Because of its fluctuating nature, this routine does not permit a rigid enough synchronization to permit one to predict the phasing of man's rhythms with the same confidence that one can for the experimental animal. With the development of the concept of changing resistance to



drugs and x-radiation as a function of the organism's circadian system, it would be desirable to have a more precise and practical way of synchronizing man's circadian system. One approach this laboratory presently is exploring is the synchronization of the circadian system to restricted food schedules. Initial studies on mice, to be reported, demonstrated that the eosinophil rhythm can be rigidly synchronized to such schedules. A host of biochemical parameters as well as rhythms in cell division also are being investigated. A desirable goal is to be able to extend these studies to man so that eventually we can predict for the patient when the rate of cell proliferation in any tissue is likely to be highest or lowest. The practical application of this in x-radiation and drug therapy from the viewpoint of chronotherapy will be discussed.

PENNINGTON, R. C., and R. W. OGILVIE, *Department of Anatomy, Medical University of South Carolina, Charleston, South Carolina. in vivo vs. ex vivo assessment of erythrocyte and platelet aggregation.*

There has been disagreement with regard to the state of the suspension of the formed elements in the circulating blood. Do erythrocytes circulate singly or in small aggregates? Do rouleaux form in circulating blood? Do platelets aggregate in the circulating blood? Do these phenomena always indicate the presence of pathological processes? Before answers to these questions can be attempted, the bases of our knowledge must be examined. How is the *in vivo* status of the cell suspension in a patient or animal subject evaluated? What *in vitro* erythrocyte and platelet aggregation tests are available? Do *in vitro* and *in vivo* tests correlate?

The above questions will be discussed and some definitions of terms and suggestions for clarification of points at issue will be offered.

We have been using a slide test and a tube test in efforts to correlate erythrocyte and platelet aggregation *in vitro* with these events taking place *in vivo*. Results using these tests will be presented.

POVLISHOCK, J. T., and J. J. TAYLOR, *Department of Anatomy, Saint Louis University School of Medicine, Saint Louis, Missouri. Acetylcholinesterase distribution in the hypoglossal nucleus of the mouse.*

Acetylcholinesterase (Ache) activity was studied within the motor neurons of the hypoglossal nucleus of the mouse. Concomitant studies also were conducted to determine any modification of Ache activity and distribution in response to nerve avulsion. A total of thirty adult, albino mice was used. From twenty of these, segments of the brain stem containing the hypoglossal nucleus were fresh frozen, then sectioned on a cryostat at a thickness of 8 microns and treated with a modification of the Koelle-Friedenwald technique for Ache. The hypoglossal nerve was avulsed surgically in the remaining ten mice. The mice were sacrificed at periodic intervals following surgery and treated for Ache in the manner pre-

viously described. The neurons of the hypoglossal nucleus manifested a uniformly high degree of Ache activity. Ache distribution was noted to be equally dispersed throughout the cell cytoplasm, with the cell nucleus being devoid of all activity. Ache activity also was noted to be particularly intense within the area of the cell membrane. The neurons of the hypoglossal responded to nerve avulsion in a set manner i. e., Ache activity decreasing within two days following surgery and being eliminated totally after the elapse of seven days. In all instances, activity was observed to be lost first from the cytoplasm and lastly from the area of the cell membrane.

(Supported By General Research Support Grant FR-05388 of the USPHS.)

ROSENE, G. L., *Department of Physiology and Health Sciences, Ball State University, Muncie, Indiana. Circadian Rhythms of Mitosis in Normal Cell Populations Related to Cancer Chemotherapy.*

The study was prompted by reports of suppressive effects of Cytosar<sup>®</sup> upon DNA synthesis. This drug behaves as a short term suppressor of DNA synthesis (in vivo half life, circa 20 minutes). Information relating to dosage regimens least affecting normal cell populations was sought.

Two separate, but related, procedures were undertaken. Determinations of mitotic indices in certain normal cell populations and estimations of the lethal dose 50 percent (LD 50 percent) of the cancer chemotherapeutic drug Cytosar were made at four hour intervals during the 24 hour period.

Female A-strain mice, weighing between 24 and 28 grams, maintained on a 12 hour light-12 hour dark regimen, were used. Mitotic indices were determined in pinna epidermis, gastric glands and hepatic cells. Six, eight member, groups were killed at consecutive four hour intervals. LD 50 percent analyses were performed at comparable four hour intervals. The Reed Meunch method of 50 percent endpoint determination was employed using six groups of 40 members each.

Periods of maximum mitosis and maximum LD 50 percent values were coincident, suggesting a protection of normal proliferative populations if Cytosar administration were to accompany normal cell hyperplastic periods.

<sup>®</sup>Cytosar, cytoarabine, 1-B-D-arabinofuranosylcytosine, Upjohn.

SHARAWY, M., and D. P. PENNEY, *Departments of Oral Biology and Anatomy, Medical College of Georgia, Augusta, Georgia, and University of Rochester, Rochester, New York. Fine structural changes in involuting adrenal cortices.*

To study the morphology of involuting adrenal glands following withdrawal of chronic ACTH stimulation, rats were injected daily with 10IU of ACTH for 14 or 30 days. Some were permitted to recover for an additional 14 days by withdrawing ACTH. Sham injected animals were maintained as controls. Another

form of glandular involution was studied in rats sacrificed at 14, 21, 28 and 36 days after hypophysectomy. Adrenals of control and experimental animals were excised, weighed, and processed for light and electron microscopic studies. ACTH stimulated adrenals were significantly decreased in weight after 14 days of ACTH withdrawal. Histologic studies of the involuted glands showed a decrease in total widths and cell size of zonae fasciculata and reticularis. Fine structural studies of the adrenals of ACTH deprived animals showed more lysosomes, autophagic vacuoles that contained degraded mitochondria, hypertrophied Golgi apparatus, increase in coated vesicles and the appearance of macrophages with large numbers of lipofuscin granules. In contrast, the involuting cortices from hypophysectomized animals, in addition to the above changes, had marked alterations in mitochondrial structure, shape and size and more marked macrophage cell infiltration. These results indicate a major role of lysosomes in adrenocortical cell involution.

SPYKER, J. M., *Departments of Anatomy and Pharmacology, University of Minnesota Medical School, Minneapolis, Minnesota. (Currently: Department of Anatomy, University of Virginia Medical School, Charlottesville, Virginia.) Methylmercury, Mice and Men.*

Methylmercury (MM) pervades the biosphere. A need exists to determine what effects this environmental pollutant may be having on human health. MM easily crosses the placental barrier and is more toxic to the developing embryo than the adult. The present report concerns a systematic study in mice of the effects of maternal MM exposure on embryogenesis and postnatal development of offspring.

For the prenatal evaluation, a complete factorial design was used to assess the effect of gestational day of treatment and dosage of MM; two inbred strains (129/SvS1 and A/J) were included to determine the genetic influence. A total of 667 females received ip injections of 0, 2, 4 or 8 mg MM dicyandiamide per kg on one of days 6-12 of gestation, and 2,280 implantation sites were examined at term. Results of autopsy revealed that MM, at doses which did not affect the mother, caused growth retardation, malformations and death in a significant number of offspring. All findings were dependent on day of in utero exposure, dosage of MM, and strain of mouse (*Teratology* 5: 181-190, 1972).

A surprising result was that 98 percent of fetuses from treated 129/SvS1 females were morphologically normal when examined at term. Consequently, a postnatal evaluation was done to determine if these apparently unaffected offspring developed normally after birth. Cross-fostering procedures were employed to permit discrimination of prenatal vs. postnatal influences. Although all offspring from MM-exposed mothers were overtly normal at birth, a significant number performed differently from controls in behavioral and neuromuscular test situations when evaluated at 2 months of age. However,

data from subsequent analysis of brain weight, protein, and acetylcholine enzyme activities revealed no differences (*Science* 177: 621-623, 1972). Long term evaluation of animals that were indistinguishable from controls when young, suggests that they age earlier, develop more eye and postural defects, and exhibit neurological deficits.

SREESAI, Meechai, *Department of Anatomy, University of Alabama in Birmingham, Birmingham, Alabama. The deep cerebellar nuclei of the opossum (Didelphis virginiana): Their afferent and efferent connections as determined by the experimental method.*

The deep cerebellar nuclei of the opossum consist of three continuous nuclear masses: the medial or fastigial nucleus, the interpositus nucleus and the lateral or dentate nucleus. The efferent projection paths from the deep cerebellar nuclei of the opossum have been described by Foltz and Matzke (1960), but the cerebellar cortico-nuclear connections have not been documented experimentally. This investigation was undertaken in an attempt to extend information concerning the afferent and efferent projections of the cerebellum of the opossum. Lesions were placed in the paraflocculus, the flocculus, the ansoparamedian lobule, the deep cerebellar nuclei on the right side and also in the posterior vermis (pyramis and uvula) and the adjacent right paravermal area. In Nauta-Gygax preparations, it has been found that the paraflocculus projects fibers to the caudolateral part of the homolateral dentate nucleus, the ansoparamedian lobule to the homolateral dentate and interpositus nuclei, the paravermal cortex of the posterior lobe to the homolateral interpositus nucleus, and the cortices of the pyramis and uvula to the homolateral fastigial nucleus. The results of the present study confirm the longitudinal cortico-nuclear zone concept proposed by Jansen Brodal (1940, 1954). Chambers and Sprague 1955 a, b) and Goodman and Simpson (1961), that the vermal zone projects to the homolateral fastigial nucleus, the paravermal zone to the homolateral interpositus nucleus and the lateral zone of the cerebellum to the homolateral dentate nucleus. Direct cerebellar projections from the cortex of the flocculus and the pyramis and uvula to the vestibular nuclei also have been observed in the present study. Details of these findings will be demonstrated and the implication of such connections will be discussed.

STURTEVANT, R. P., *Department of Anatomy, Evansville Center for Medical Education, Indiana University School of Medicine, Evansville, Indiana. Circadian rhythmicity in bacterial growth rates.*

Continuous growth of a culture of *Klebsiella aerogenes*, maintained for a period of 12 days at a temperature of 37.10°C (+0.05°), showed a highly significant circadian fluctuation ( $P < 0.01$ ) with a period of 24.1 hours. Although this periodicity was not detected readily by visual inspection of the data, the rhythm was revealed by a cosinor analysis procedure designed to remove obscuring random



variations.

Daily fluorescent illumination of 100 footcandles was provided from 08°° to 20°°; during the alternate 12 hours, the culture remained in the dark. Koser's citrate medium was pumped into the growth chamber at the same constant rate that culture was removed. Samples collected over successive 15- or 30-minute periods were assayed photometrically for turbidity.

The existence of biorhythms in prokaryotic cells has not been investigated extensively. Although some workers have proposed that these microorganisms lack a structural and genetic complexity requisite for circadian mechanisms, a circadian periodicity in cultures of *Escherichia coli* was reported by Halberg and Connor (*Proc. Minn. Acad. Sci.* 29:227-239, 1961). The present study has extended this finding to a second bacterial species and to a different culturing method.

TEBO, H. G., *Department of Anatomy, The University of Texas at Houston, Dental Branch, Houston, Texas. Wax replication of head structures as a teaching device.*

For many years an exercise in wax replications of selected soft tissues of the head has been utilized as a teaching device for undergraduate students at the University of Texas Dental Branch. This also has been employed for specific problems for graduate students. Following dissection of the head and neck, the student is assigned certain soft tissues, such as the muscles of mastication and salivary glands, to duplicate in wax on a natural human skull. This requires a close study of the space relationships of these structures that are of great importance in dentistry. These are then reviewed and graded by an Anatomy Faculty committee.

The uses of this technique as a teaching device will be discussed; and illustrations of students' work, both undergraduate and graduate, will be presented. The integration of this into the study of occlusion in the study of teeth also is mentioned.

TRAN, Tuan anh, and R. V. GREGG, *University of Louisville School of Medicine, Health Sciences Center, Louisville, Kentucky. Experimental restraint ulcer: a study of a humoral factor.*

Physical restraint produces gastrointestinal ulcers in rats. The incidence of lesions after 24 hours of restraint reaches 86 percent. Adrenalectomy has been found to increase the incidence of restraint ulcers by some investigators and to be without effect by others. Results after vagotomy are equally equivocal as to its effectiveness in reducing ulceration. The etiology of restraint ulceration is unclear, but we believe that a humoral agent may be involved. We have attempted to test this hypothesis by parabiosing restrained rats with unrestrained mates. One littermate was immobilized on a specially designed cart that a free parabiotic mate was able to draw about with it. Nineteen pairs of parabiotic rats were restrained for a period of 24 to 30 hours. In six pairs that had one mate stressed for 24 hours 1/6 of their unstressed mates had macroscopic ulcerations and 4/6 had

microscopic ulcerations. In eleven pairs that had one mate stressed for 28 hours, 5/11 of their unstressed mates had macroscopic ulcerations and another 5/11 had ulcerations that required microscopic confirmation. Two pairs that had one mate stressed for 30 hours have shown 100 percent incidence of ulceration in the unstressed mate microscopically. All restrained rats showed a 100 percent incidence of ulceration. A careful microscopic search confirmed that the parabiotic union in itself was not ulcer-producing in 5 pairs of parabiotic rats. Attachment of a non-parabiosed rat to the experimental cart carrying a restrained rat as a control did not produce an ulcer in any of 5 rats treated this way. These results support the hypothesis that a humoral agent is involved in stress-induced ulcers.

TRAVIS, Mary Nell G., *Department of Anatomy, University of Alabama in Birmingham, Birmingham, Alabama. Olfactory, tubercular and septal areas of telencephalon of the kangaroo, Macropus major.*

The morphology of olfactory, tubercular and septal areas of the telencephalon of the kangaroo, *Macropus major*, was determined from serial sections of the brain. Sections were stained with thionin or prepared by the Weil technique. Neurons of the large olfactory and accessory olfactory bulbs occur in laminae according to the typical mammalian pattern. The anterior olfactory nucleus is transitional between nuclear elements of the olfactory and accessory olfactory bulbs and those of the cerebral hemisphere proper. This nucleus forms an oblique periventricular ring and associated external lamina within the olfactory peduncle and an irregular nuclear mass within the rostroventral extent of the cerebral hemisphere. The olfactory tubercle, large and well developed with longitudinal surface fissures, exhibits a superficial or plexiform layer, an intermediate or cortical layer, and a deep or polymorphic layer. Islands of predominately granule type cells including a large medial island are in evidence. The olfactory tubercle is divisible rostrocaudally into rostral, middle and caudal subdivisions and longitudinally into medial and lateral zones. Precommissural and supracommissural septal regions are designated with reference to the anterior commissure. The caudal extent of the precommissural septum is particularly well developed and includes many nuclear groups including the septohippocampal nucleus, the rostral extent of the septofimbrial nucleus and dorsal and ventral parts of the lateral septal nucleus. The nucleus accumbens is remarkable because of its large size.

Myelinated fibers of the olfactory tract system are separable into a large lateral olfactory tract with dorsal, ventral and intermediate parts; a heavy, well myelinated commissural bundle, the intermediate olfactory tract; and a diffuse, lightly myelinated medial olfactory tract. Myelinated fibers of the medial forebrain bundle traverse the septal region in separate fascicles which pass through or along the caudal aspect of the nucleus accumbens. Tubercular



as well as septal and amygdalar fascicles of the diagonal band are discernible. Septal components of the fimbria-fornix system are distinguishable in the Weil preparations. Drawings of sections taken from various transverse levels of this marsupial brain are used as a basis for the discussion of general as well as unique morphological aspects of the selected regions.

WALDROP, F. S., H. PUCHTLER and L. S. VALENTINE, *Department of Pathology, Medical College of Georgia, Augusta, Georgia. Application of neutral premetallized dyes to microscopy.*

In dyes of this new class, two dye molecules, which lack acid or basic groups, are linked by a chromium atom. Affinity of the dyes for substrates increases with increasing size of the dye molecules. The lack of ionic groups greatly increases the wet fastness of dyed material. In histology it is widely assumed that ionic groups are necessary for dye binding. It therefore was deemed interesting to study the staining properties of dyes which lack ionic groups.

Human tissues were fixed in methacarn, Carnoy's fluid, 10% formalin or Zenker-formol. Neutral premetallized dyes of the Isolan series were employed. Sections were stained in acid dye solutions with and without pretreatment of phosphomolybdic acid; other series were stained under the conditions of the Sirius technics for amyloid or the TP-dye technic for myosins.

The Isolan dyes stained well from acid or salt solutions. Pretreatment with phosphomolybdic acid decreased dye binding. Under the conditions of the TP-dye technic several Isolan dyes stained myosins and fibrin selectively, even after formalin fixation.

This study indicates that neutral premetallized dyes have considerable affinity for various tissue structures. Evidently, ionic groups are not essential for dye binding.

(Supported by USPHS Research Grant HL 12147 from the National Heart and Lung Institute and General Research Support Grant FR-5365.)

WARD, J. W., *Department of Anatomy, University of South Florida College of Medicine, Tampa, Florida. Studies on the early embryology of the marine catfish, Galeichthys felis, with special reference to the nervous system.*

Living preserved whole mounts and sections are being studied in embryos ranging from 3 mm to 60 mm. Differentiated on 5 mm embryo whole mounts are olfactory lobes, cerebral hemispheres, epiphysis, hypophysis, optic lobes (mesencephalon), cerebellum and medulla. Sections of 7 mm embryos demonstrated the presence of primary brain divisions and ventricles, trigeminal ganglia, auditory vesicles and acoustic nerves, semicircular canals and vestibular nerves, vagal ganglia; marginal, mantle and ependymal layers of cord. Eleven mm embryos demonstrated all divisions of the eye including layers of retina, cranial lateral line system and nerve, sympathetic chain and ganglia. Additional detailed studies are in progress.

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**Warnings:** Safety in pregnancy not established. Do not use for group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Sore throat, fever, pallor, purpura or jaundice may be early indication of serious blood disorders. CBC and urinalysis with careful microscopic examination should be performed frequently.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy or bronchial asthma. Hemolysis, frequently dose related, may occur in glucose-6-phosphate dehydrogenase-deficient patients. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *Allergic reactions:* Erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *Gastrointestinal reactions:* Nausea, vomiting, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; *Miscellaneous reactions:* Drug fever, chills and toxic nephrosis with oliguria and anuria; Periarteritis nodosa and L.E. phenomenon have occurred. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Supplied:** Tablets containing 0.5 Gm sulfisoxazole.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

acute, recurrent or chronic nonobstructed cystitis

# TWO BUILT-IN BENEFITS OF GANTRISIN<sup>®</sup> sulfisoxazole/Roche<sup>®</sup>

## 1.

### High urinary drug levels

Gantrisin quickly reaches peak antibacterial concentrations in the urine—usually in 2 to 3 hours. With the recommended dosage regimen, Gantrisin maintains these high urinary levels throughout therapy to combat such susceptible organisms as *E. coli*, *Klebsiella-Aerobacter*, *Staphylococcus aureus*, *Proteus mirabilis* and, less frequently, *Proteus vulgaris*.

## 2.

### Generally good tolerance

Because of Gantrisin's high solubility and rapid excretion, therapy is relatively free of adverse reactions serious enough to require discontinuance of the drug (3.1% of 1002 patients in a recent study\*). Even minor reactions are comparatively infrequent, but may include nausea, headache and vomiting.

For other possible undesirable reactions, and precautions, please see summary of prescribing information on opposite page.

\*Koch-Weser, J., et al. Arch. Intern. Med. 128:399, 1971.

For nonobstructed cystitis

begin with

**Gantrisin<sup>®</sup>**  
sulfisoxazole/Roche<sup>®</sup>

Usual adult dosage:

4 to 8 tablets *stat*

2 to 4 tablets *q.i.d.*



# A BLUE SHIELD REPORT

## CUSTOMARY CHARGE PROFILES UPDATED

New profiles of customary charges derived from actual charges made by each South Carolina physician in 1971 became effective October 1, 1972, as determinants of the benefits to be paid by Part B of Medicare and by Blue Shield's Usual, Customary and Reasonable Fee Program. A copy of his own profile of customary charges was mailed to each of 1,805 doctors in the state.

Doctors who filed insufficient numbers of claims, from which customary charges are determined, did not receive profiles. Others, in specialties normally making recognized charges by units of time for each service, such as Anesthesiologists and Psychiatrists, also did not receive profiles.

The profiles will be recomputed early in 1973, from charges appearing on all Blue Shield and Medicare claims filed in 1972. Correct coding of procedures and specific charge for each procedure, by each doctor's office on all claims, will ensure most accurate and equitable payment of benefits in the future.

In the nine months prior to updating of fee profiles, Blue Shield paid physicians 92.3% of the more than \$500,000 of charges reported under the UCR Program. Correct coding and accurate reporting of charges henceforth will enable payment of 100% of all customary and prevailing fees.

## LOWER CHARGE FOR SECONDARY PROCEDURE WILL NOT EFFECT PROFILE

Multiple surgical procedures should be reported by separate codes and separate charges. If a less-than-customary charge is made for a procedure performed secondarily during a multiple procedure service, that lesser charge will not be included in recomputation of the physician's customary charge for that procedure.



## THE MONTH IN WASHINGTON

Congressional leaders have given national health insurance a high priority, but the new Congress may not act on it until late this year or even next year.

Senate Democratic Leader Mike Mansfield of Montana assigned the legislation "the highest priority" and expressed confidence that a national health insurance program will be approved during the next two years by the 93rd Congress.

The key congressman on this legislation, Rep. Wilbur D. Mills (D., Ark.), chairman of the House Ways and Means Committee, has described the 93rd Congress as moving "to fashion a national health insurance program which the great bulk of Americans can support."

The three major national health insurance bills before the Congress will be the Nixon Administration's proposal financed by employer-employee contributions, the American Medical Association's Medigap plan and legislation sponsored by Sen. Edward M. Kennedy (D.-Mass.).

The Ways and Means Committee acts first on such legislation and it had been expected to take up tax reform and possibly pension plan legislation before national health insurance. This would have deferred national health insurance for at least several months. But the timetable has not been definitely set and Mills recently indicated that tax reform might be given a lower priority.

Another piece of legislation of major importance to the medical profession that will be before the 93rd Congress deals with health maintenance organizations (HMOs). The Senate last year approved a bill authorizing a broad HMO program and the House Health Subcommittee approved a much more limited program.

Democrats remain in control of Congress and the key congressmen on health care legislation will continue to be Mills; Kennedy, chairman of the Senate Health Subcommittee; Rep. Paul G. Rogers (D.-Fla.), chairman of the House Health Subcommittee; and Sen. Russell B. Long (D.-La.).

Both the Ways and Means Committee and the Senate Finance Committee held extensive hearings on national health insurance during the 92nd Congress but the legislative process must start anew because all pending bills die automatically at the end of a two-year Congress.

Medigap, slated for early introduction, is being expanded to include home care and limited dental benefits. In the 92nd Congress, Medigap had 174 sponsors, by far the largest number for any national health insurance legislation.

Kennedy, with the support of organized labor, sponsored the most costly plan in the 92nd Congress. It also called for extensive reorganization of the nation's health care delivery system with the government having a dominant role. At this writing, he had not disclosed any details of his new bill.

He and Mills have conferred on national health legislation to see if they could agree on a program. In a recent speech, Kennedy said that Mills "and I plan to jointly introduce such legislation early next year (1973)." But Mills has not gone quite this far, at least in his public statements. Last fall Mills said of his talks on the matter with Kennedy:

"We found wide areas of agreement. But obviously there were key areas where we did not—particularly in the financing and administrative areas. It may be that as we continue to discuss these areas further agreement can be made. I think I will be able to convince him that reliance on the federal treasury and the federal bureaucrat is not the best way to accomplish our common objectives."

The Bureau of Narcotics and Dangerous Drugs has proposed restricting sales of nine barbiturates which were described as highly addictive and linked to 1,771 suicides and deaths in 17 months.

The Bureau said the barbiturates are more dangerous than heroin.

"Withdrawal from the use of these drugs can be fatal and, in many instances, withdrawal symptoms are more severe from a barbiturate habit than from heroin addiction."

BNDD Director John E. Ingersoll said.

He identified the barbiturates by their generic names as amobarbital, butabarbital, cyclobarbital, heptabarbital, pentobarbital, probarbital, seconbarbital, talbutal and vinbarbital. He listed only five brand-name drugs: seconal (seconbarbital), tuinal (amobarbital and secobarbital), amytol (amobarbital), neumbital (penobarbital) and butisol (butabarbital).

The BNDD Director asked the Food and Drug Administration to place the nine barbiturates under the same controls for cocaine, morphine, codeine, methadone and amphetamine.

W. R. Barclay, M.D., assistant executive vice president of the American Medical Association, said that the AMA reserves the right to reject drug advertising even if it conforms to Food and Drug Administration regulations.

He said the AMA had accepted the FDA's authority as to drug advertising when it was promulgated in 1968 "after determining that the regulations would provide adequate screening and furthermore would have the advantage of being consistently applied to all medical publications, not just AMA journals."

However, Dr. Barclay added, the AMA reserved the further right of rejection, not only as to drugs but to other products too, "if the proposed ad is judged to be in poor taste, if the layout would cause confusion with the editorial content of the journal or if the ad is for a product, service or book which is not covered by FDA regulations and which in AMA's opinion does not meet our standards of acceptability."

Dr. Barclay said the impact of advertising on drug prescribing, use and misuse is not known.

"No scientific data has been developed on this question, and no reliable method has been proposed to acquire such data," Dr. Barclay said. "Ads placed in scientific journals reach a well educated, well informed and broadly experienced audience that has access to many sources of scientific information. Since all material in such ads has been judged by FDA to be correct and accurate it is difficult to see how such advertisements

could adversely affect prescribing practices. In spite of the plethora of information available to physicians, AMA has developed and distributed without charge to its members its own evaluation of drug products. This book is titled *AMA Drug Evaluations* and is usually referred to as "ADE". Unfortunately, we are in no better a position to judge the impact of this book than we are to judge the impact of advertising or editorial copy in our journals."

Dr. Barclay outlined the AMA's position at a public hearing of the National Council of Churches.

The Department of Health, Education and Welfare has ended a 40-year study of the effects of untreated syphilis among a group of black men in Alabama.

Assistant HEW Secretary Merlin K. DuVal announced the end of the Public Health Service study after receiving an investigatory report from a HEW-appointed citizens' advisory board.

When it began in 1932 in rural Alabama, the study involved more than 400 black men with syphilis and another 200 who did not have the disease and were used for comparisons. Of the 125 survivors, 50 were in the non-diseased control group.

In its report to DuVal, the panel said, "No convincing evidence has been presented to this panel that participants in this study were adequately informed about the nature of the experiments, either at its inception or subsequently," and added:

"The U.S. Public Health Service from the onset of the study has maintained a continuous policy of withholding treatment for syphilis from the infected subjects. There was common medical knowledge, before this study, that untreated syphilitic infection produces disability and premature mortality."

"The study of untreated syphilis in black males in Macon County, Ala., now known as the Tuskegee Syphilis Study, should be terminated immediately," the panel said.

Autopsies to determine the effects of untreated syphilis were discontinued several months ago.

During the experiment at least 28 men are known to have died of syphilis.

The General Accounting Office, Congress' watchdog on federal spending, issued a voluminous report on the nation's health care system with recommendations that it estimated could save several billions of dollars annually.

The basic recommendations were for better construction, design and planning, better usage of health care facilities, and more emphasis on preventive medicine and group practice.

The year-long GAO study was commissioned by Congress originally to survey the Hill-Burton hospital construction program. The Senate Labor and Public Welfare Committee later asked the GAO to expand it to include all aspects of health care.

Reduction of hospital stays and more emphasis on out-patient treatment are essential, the GAO said. It was recognized that the health insurance coverage of out-of-hospital care has been increased, but the GAO said that "a large number of people still lack this coverage because they cannot afford to spend more money on health insurance." The American Medical Association Blue Cross and Blue Shield were reported as favoring further increases in outpatient coverage.

One out of four patients was reported to receive more hospital care than necessary. The report said that reducing hospital stays an average of one day would in effect add 96,000 beds to the nation's hospitals. It was estimated that putting patients needing long-term care, as opposed to acute, in special facilities would not only be less expensive but would make available 126,000 beds in general hospitals. Expansion of home health care programs would reduce the need for 20,000 hospital beds the report said. Sharing of services by regional groups of hospitals could increase efficiency. For example, the 90,000 hospital beds allotted to obstetrics could be reduced by 38,000.

The report also said sharing of services also could cut demand for new hospital facilities for such procedures as open-heart surgery, radiation therapy and kidney dialysis. The GAO investigators found that of 416 hospitals equipped to do open-heart surgery

in 1969, 97 per cent used them less than four times a week. Pediatric and emergency services also offer sharing possibilities, the study said.

The study concluded that alternate health-care systems such as prepaid group practice, foundations for medical care and health maintenance organizations "may offer significant savings." The report said that such groups generally use at least 20 per cent fewer hospital days per 1,000 patients than traditional care.

The planning of health care was criticized as disorganized.

"Less than 50 per cent of the 163 health planning agencies responding to our inquiries about health facility needs provided data showing that they had knowledge of 1972 needs for various types of inpatient, extended and ambulatory care facilities and beds," the report said.

The GAO cited union wage increases beyond productivity increases and so-called feather-bedding practices as major factors in rising hospital construction costs.

The AFL-CIO Building Construction and Trades Department in a letter to the GAO included in the report, said the GAO had been "grossly misleading and deductively backward," contending that productivity in the construction industry was far outstripping wage gains.

The GAO said labor and industry must act if costs are to be held down. It said contractors who try to fight strikes "have been pressed by project owners to settle quickly to complete construction. Any increases in wages agreed to by contractors are generally passed on as increased costs to owners on future projects."

Government scientists believe they have found the cause of intestinal flu, the ailment that frequently sweeps through a community or an office causing 24 to 48 hours of nausea, vomiting, diarrhea and abdominal cramps in its victims.

They call it "Norwalk agent."

Doctors have generally called the disease acute infectious nonbacterial gastroenteritis because a specific cause had not been identified.



able. The ailment is not to be confused with the sometimes deadly influenza which occasionally causes international epidemics.

Scientific investigators for the National Institutes of Allergy and Infectious Diseases, working from a 1968 outbreak of the disease in Norwalk, Ohio, and using the latest techniques in scientific photography, claim to have captured the elusive "Norwalk agent" on film.

Frank J. Rauscher, Jr., M.D., director of the National Cancer Institute, says that "some very important progress is being made" in cancer research and that the day soon may come when a single drop of a person's blood will be tested to diagnose the disease.

"In fact, I would say that our knowledge of cancer—what causes it, how it can be prevented, how to spot it in early stages, and how to treat it—has advanced more in the last two years than in the previous 50," Dr. Rauscher said.

He made his prediction in a copyrighted interview published in U.S. News & World Report.

But he predicted that in 1973 about 645,000 new cases of cancer will be discovered in the United States and that 350,000 Americans will die from the 100 or so forms of the disease.

Rauscher said from 300 to 400 institutions were grappling with the problems of cancer and that they were making "tremendous strides". He estimated the total being spent

each year, both public and private, at \$750 million.

Elsewhere on the cancer research front:


Seven American cancer scientists went to Russia and for two weeks exchanged information on cancer viruses with leading Soviet scientists in the U.S.S.R. The exchange was part of the U.S.-U.S.S.R. health agreement to share research results from cancer, heart disease and environmental studies which was signed in Moscow in May, 1972, during President Nixon's summit meeting. As part of the exchange agreement, the U.S. scientific delegation will present to Soviet scientists 31 strains of cancer viruses affecting chickens, cats, rodents, and nonhuman primates, as well as a possible human tumor virus from a muscle cancer. James F. Holland, M.D., a specialist in treating cancer by drugs, has been named to work in the Soviet Union for one year to help carry out the new U.S.-U.S.S.R. program.

A multi-disciplinary cancer research program will be established at the Weizmann Institute of Science in Rehovot, Israel, under a \$447,000 research contract awarded by the National Cancer Institute. Several research topics will be investigated, including the roles of various white blood cell populations in the body's defense against cancer, and methods that may induce leukemia cells to mature normally. Attempts also will be made to further develop tests that offer hope for early cancer detection and diagnosis.

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**Who  
killed  
the  
wicked  
itch**

(and the infection)\*

**?**

**snow white**  
**Sporostacin Cream**  
TRADEMARK

(chlordantoin 1% and benzalkonium chloride 0.05%)

After you write your prescription for two tubes of soothing, fungicidal Sporostacin Cream, tell your patient not to be fooled by the quick relief of symptoms it affords. Make sure she knows how to use it as directed—for the *full* 14-day course of therapy. Then, on follow-up, you'll usually find that nonstaining, easy-to-use Sporostacin Cream has finished off vulvovaginal candidiasis in the nicest possible way.

**two tubes...two weeks**



\*

**Indication:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:  
“Probably” effective: For the treatment of vulvovaginal candidiasis.  
Final classification of the less-than-effective indications requires further investigation.

**Contraindications:** None known. **Precautions:** Cases of sensitization and irritation have been reported. When noted the drug should be discontinued. **Dosage:** One applicatorful intravaginally twice daily for a period of 14 days. Course of therapy may be repeated if necessary.

**Ortho Pharmaceutical Corporation • Raritan, New Jersey 08869**



© OPC 1972



# Librium® and (chlordiazepoxide HCl) concomitant use

Librium (chlordiazepoxide HCl) is used as adjunctive antianxiety therapy concomitantly with certain specific medications of other classes of drugs, such as cardiac glycosides, anti-hypertensive agents, diuretics, anticholinergics and antacids.

**Antianxiety effectiveness:** Demonstrated in a broad range of psychologic and physical dysfunctions; indicated when reassurance and counseling

are not enough and until, in the physician's judgment, anxiety has been reduced to tolerable appropriate levels.

**Effect on mental acuity:** Usually minimal on proper maintenance dosage.

**Safety:** An excellent clinical record. In general use, the most common side effects reported have been drowsiness, ataxia and confusion, particularly in the elderly and debilitated.

**in relief of clinically  
significant anxiety**

**Librium®**  
**(chlordiazepoxide HCl)**  
**5-mg, 10-mg, 25-mg capsules**  
**up to 100 mg daily in**  
**severe anxiety**

Boston  
Massachusetts 02115  
10 Shattuck Street  
Francis & Company, Inc. or Medical

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debili-

tated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the

elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased or decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110



DISPLAY  
HELVES

# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

LIBRARY OF MEDICINE  
BOSTON  
1973

INTOXICATION WITH PROCYCLIDINE  
CLINICOPATHOLOGICAL CONFERENCE  
CAROLINA ACUPUNCTURER  
NURSING SERVICE IN GUY'S HOSPITAL

Minutes of Executive Committee

Minutes of Foundation for Medical Care

Report from Clinical Convention, Cincinnati  
Cancer Topics

ME 69

FEBRUARY, 1973

NUMBER 2

## Announcing ... **U-100 Iletin<sup>®</sup>** (Insulin, Lilly) (100 units of Insulin per cc.)

This is a concentration suitable for most Insulin-dependent diabetics.

U-100 Iletin promises significant patient benefits from standardized, simplified, and convenient Insulin therapy. It is available in six formulations.

Note: A U-100 syringe must be used with U-100 Iletin.



Eli Lilly and Company  
Indianapolis, Indiana 46206

Leadership in Diabetes Research  
for Half a Century

300059



Additional information  
available to the profession on request.



Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counseling



and a few may need counseling  
*and* the psychotropic action of Valium® (diazepam).



Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect.

**Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

# Valium® (diazepam)

To help you manage excessive psychic tension



# Pinworm therapy is often a family affair



**Contraindications:** History of hypersensitivity to thiabendazole.

**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.

**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction,

patients should be carefully monitored.

**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live *Ascaris* in the mouth and nose. Hypersensitivity reactions

# A New Dosage Form:

## Chewable Tablets 500 mg Mintezol® (THIABENDAZOLE | MSD)



so easy to take  
everyone in the family  
can keep to the  
regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.  
**Supplied:** Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 cc, in bottles of 120 cc.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.

*The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).*

MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.

The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days.  This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

\*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.



# The Journal of The SOUTH CAROLINA Medical Association

FEBRUARY, 1973—VOL. 69, NO. 2

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## Contributions of Original Articles

**Mailing address.**—Edw. E. Kimbrough, M.D., Editor. 2709 Laurel Street, Columbia, S. C. 29204.

**Length.**—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

**Manuscripts.**—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

**Illustrations.**—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

**References.**—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

**Reprints.**—Reprints will be made for the author at established rates.



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Since sulfonylureas promote the release of insulin which is lipogenic and helps transport glucose into adipose tissue...

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**DBI-TD<sup>®</sup> Geigy**  
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**Contraindications:** Diabetes mellitus that can be regulated by diet alone; juvenile diabetes mellitus that is uncomplicated and well regulated on insulin; acute complications of diabetes mellitus (metabolic acidosis, coma, infection, gangrene); during or immediately after surgery where insulin is indispensable; severe hepatic disease; renal disease with uremia; cardiovascular collapse (shock); after disease states associated with hypoxemia.

**Warnings:** Use during pregnancy is to be avoided.

**Precautions:** 1. **Starvation Ketosis:** This must be differentiated from "insulin lack" ketosis which, in spite of relatively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state.

**Do not give insulin without first checking blood and urine sugar.** 2. **Lactic Acidosis:** This drug is not recommended in the presence of azotemia or in any clinical situation that predisposes to sustained hypotension that could lead to lactic acidosis. To differentiate lactic acidosis from ketoacidosis, periodic

determinations of ketones in the blood and urine should be made in diabetics previously stabilized on phenformin, or phenformin and insulin, who have become unstable. If electrolyte imbalance is suspected, periodic determinations should also be made of electrolytes, pH, and the lactate-pyruvate ratio. The drug should be withdrawn and insulin, when required, and other corrective measures instituted immediately upon the appearance of any metabolic acidosis.

3. **Hypoglycemia:** Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.  
**Adverse Reactions:** Principally

gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake. (B) 98-146-103-D (6/72)

*For complete details, including dosage, please see full prescribing information.*

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*optional  
therapy*



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All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications** are listed above. **MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. **Adult,** one tablespoonful, 4 times daily. All doses should be followed with  $\frac{1}{2}$  to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

## **MUDRANE—original formula**

*First choice*

## **MUDRANE-2**

*When ephedrine is too exciting  
or is contraindicated*

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*During pregnancy or when K.I. is  
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*A counterpart for Mudrane-2*

## **MUDRANE GG ELIXIR**

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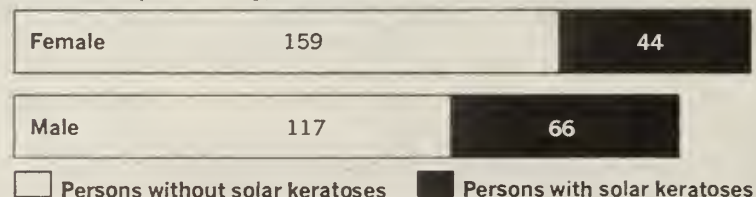
# What it means to live and work in Tipton County, Tennessee

**Persons who are white and  
over 40 have one chance in four  
of having solar keratoses...  
which may be premalignant**

An epidemiologic study\* conducted in Tipton County, Tennessee, revealed that 28.5% of white persons over 40 had solar keratoses; most had multiple lesions. Cluster sampling projected an estimated prevalence of 32.5% for white males and 19.5% for white females.

Though this is an unusually high percentage of affected persons, these lesions can occur in any white population, wherever people work or play out of doors.

**Prevalence of solar keratoses in white persons  
over 40 in Tipton County, Tennessee**



\*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.



## Solar, actinic, senile keratoses

Called by many names, the typical lesion is flat or slightly elevated, brownish or reddish in color, papular, dry, adherent, rough, sharply defined; usually multiple lesions, chiefly on exposed portions of the skin.

## Sequence/selectivity of response

Erythema in areas of lesions may begin after several days of therapy; height of reaction (only in affected areas)\* usually occurs within two weeks, declining after discontinuation of therapy. Since this response is so predictable, lesions that do not respond should be biopsied to rule out the presence of a frank neoplasm.

## Cosmetic results

Cosmetic results are highly favorable. Incidence of scarring is low—important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

## 5% cream—a Roche exclusive

Only Roche formulates the 5% cream... high in patient acceptability... high in clinical efficacy, especially for lesions of hands and forearms... economical.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)amino-methane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

## an alternative to conventional therapy **Efudex<sup>®</sup>** (fluorouracil) cream/solution



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Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110





# The Rx that says "Relax"

**BUTISOL Sodium provides highly predictable sedative effect:** minor dosage adjustments are usually all that's needed to produce the desired degree of sedation. (With 3 dosage forms and 4 strengths to make adjustments easy.)

**BUTISOL Sodium offers prompt, smooth, relatively non-cumulative action:** begins to work within 30 minutes...yet, because of its intermediate rate of metabolism, generally has neither a "roller-coaster" nor a "hangover" effect.

**BUTISOL Sodium is remarkably well tolerated:** a 30-year safety record assures you that there is little likelihood of unexpected reactions.

**BUTISOL Sodium saves your patients money:** costs less than half as much as most commonly prescribed sedative tranquilizers.\*

These are four good reasons for prescribing BUTISOL Sodium for the many patients who need to have the pace set just a little slower. Its gentle daytime sedative action is often all that's needed to help the usually well-adjusted patient cope with temporary stress.

\*Based on surveys of average daily prescription costs.



**Butisol** SODIUM  
(SODIUM BUTABARBITAL)

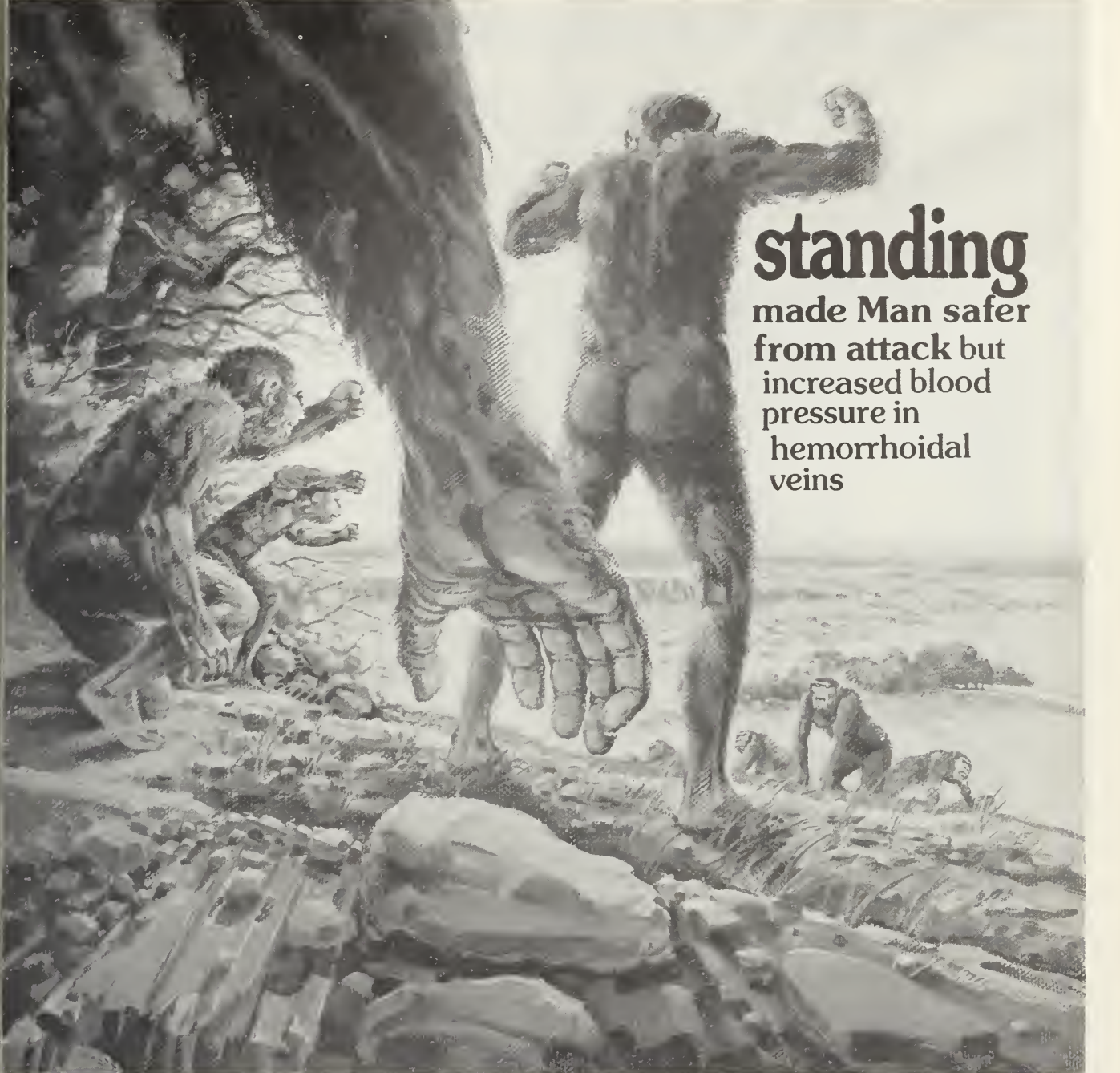
**Contraindications:** Porphyria, sensitivity to barbiturates, or susceptibility to dependence on sedative-hypnotics.

**Warning:** May be habit forming. **Precautions:** Exercise caution in moderate to severe hepatic disease; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants because of combined effects. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and gastrointestinal disturbances are seldom seen. **Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg. **Available as:** Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%) BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

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pressure in  
hemorrhoidal  
veins

to help ease  
acute symptoms of

# Anusol-HC<sup>®</sup>

Hemorrhoidal Suppositories with Hydrocortisone Acetate. On your Rx only!  
Each suppository contains hydrocortisone acetate 10 mg; bismuth subgallate 2.25%;  
bismuth resorcin compound 1.75%; benzyl benzoate 1.2%; Peruvian balsam 1.8%; zinc  
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vegetable oil base containing cocoa butter.

for long-term  
patient  
comfort

# Anusol<sup>®</sup>

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ointment contains the active ingredients of an Anusol-HC  
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Division,  
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ANGP 33

**Precaution**

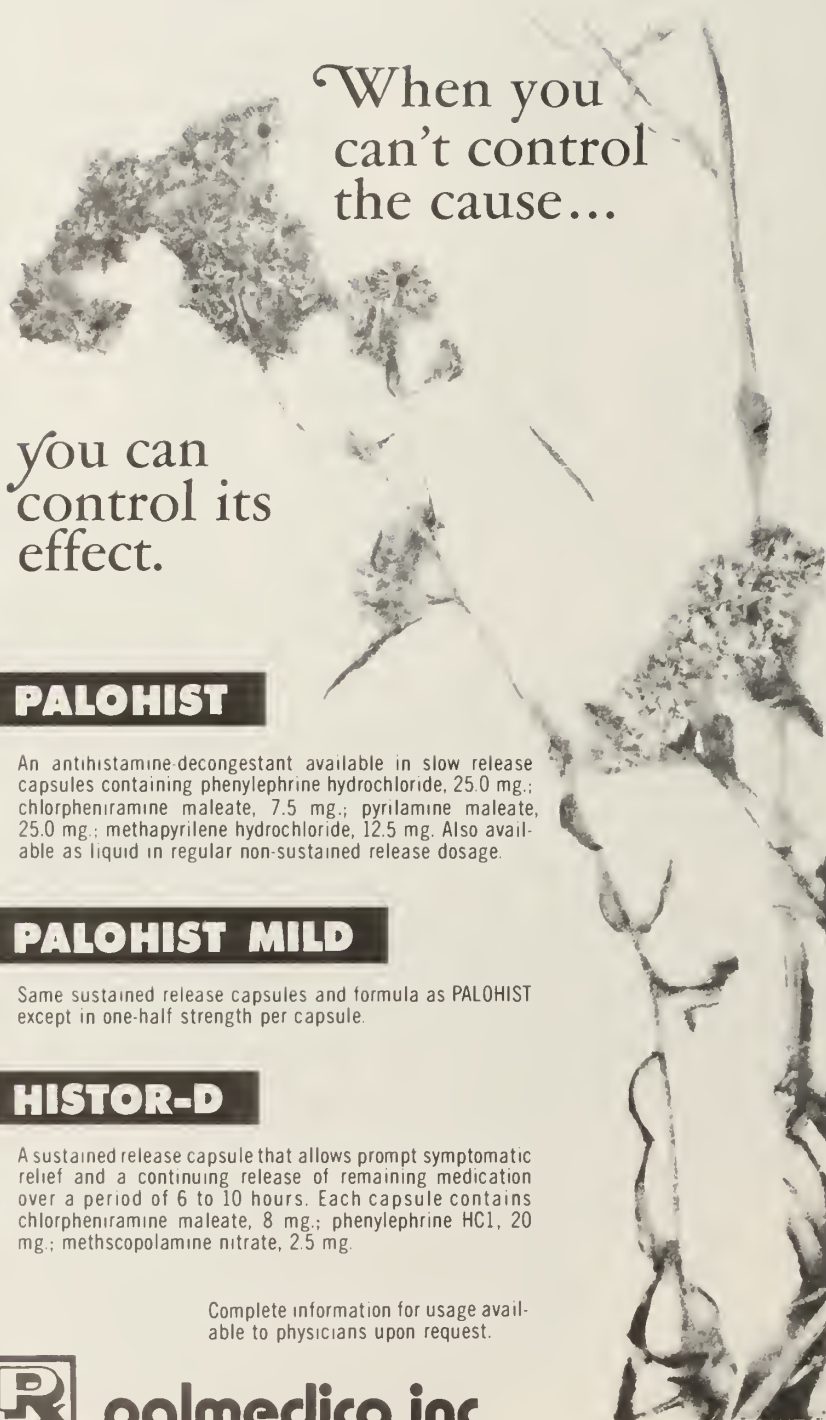
Prolonged or excessive  
use of Anusol-HC might  
produce systemic  
corticosteroid effects.

Symptomatic relief should  
not delay definitive  
diagnosis or treatment.

**Dosage and Administration**

Anusol-HC: One suppository  
in the morning and one at  
bedtime for 3 to 6 days  
or until the inflammation  
subsides.

Regular Anusol: one  
suppository in the morning,  
one at bedtime, and one  
immediately following each  
evacuation.



When you  
can't control  
the cause...

you can  
control its  
effect.

### **PALOHIST**

An antihistamine-decongestant available in slow release capsules containing phenylephrine hydrochloride, 25.0 mg.; chlorpheniramine maleate, 7.5 mg.; pyrilamine maleate, 25.0 mg.; methapyrilene hydrochloride, 12.5 mg. Also available as liquid in regular non-sustained release dosage.

### **PALOHIST MILD**

Same sustained release capsules and formula as PALOHIST except in one-half strength per capsule.

### **HISTOR-D**

A sustained release capsule that allows prompt symptomatic relief and a continuing release of remaining medication over a period of 6 to 10 hours. Each capsule contains chlorpheniramine maleate, 8 mg.; phenylephrine HCl, 20 mg.; methscopolamine nitrate, 2.5 mg.

Complete information for usage available to physicians upon request.



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# Encounter under the Scanning Electron Microscope



## SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in

detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.





*E. coli* + sulfamethoxazole



*E. coli* + tetracycline



*E. coli* + cephalothin



*E. coli* + ampicillin

## Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,<sup>1-3</sup> strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of

its mechanism of action.

"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."<sup>2</sup>

It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.

**References:** 1. Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971. 2. Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother.*, 1:164, 1972. 3. Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note:** Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

**Contraindications:** Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

**Warnings:** Safety during pregnancy has not been estab-

lished. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** Blood dyscrasias (agranulocytosis,

# Encounter in Clinical Practice

## Control of primary bacterial offenders

Antibacterial Gantanol® (sulfamethoxazole) controls susceptible strains of *E. coli* and other gram-negative and gram-positive organisms

often implicated in acute nonobstructed pyelonephritis and cystitis.

## Prompt antibacterial blood and urine levels

In from 2 to 3 hours after the initial 2-Gm adult dose, antibacterial levels are present in

both the blood and urine.

## B.I.D./T.I.D. dosage for around-the-clock coverage

Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking

and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

## Also effective in nonobstructed chronic and recurrent u.t.i.

It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often re-

spond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

## Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide

therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

**In nonobstructed cystitis and pyelonephritis due to susceptible organisms**

**Gantanol®**  
(sulfamethoxazole)  
**Basic Therapy**

plastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thy-

roid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age** (except adjunctively with pyrimethamine in congenital toxoplasmosis).

*Usual adult dosage:* 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

*Usual child's dosage:* 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

# A BLUE SHIELD REPORT

## CUSTOMARY CHARGE PROFILES UPDATED

New profiles of customary charges derived from actual charges made by each South Carolina physician in 1971 became effective October 1, 1972, as determinants of the benefits to be paid by Part B of Medicare and by Blue Shield's Usual, Customary and Reasonable Fee Program. A copy of his own profile of customary charges was mailed to each of 1,805 doctors in the state.

Doctors who filed insufficient numbers of claims, from which customary charges are determined, did not receive profiles. Others, in specialties normally making recognized charges by units of time for each service, such as Anesthesiologists and Psychiatrists, also did not receive profiles.

The profiles will be recomputed early in 1973, from charges appearing on all Blue Shield and Medicare claims filed in 1972. Correct coding of procedures and specific charge for each procedure, by each doctor's office on all claims, will ensure most accurate and equitable payment of benefits in the future.

In the nine months prior to updating of fee profiles, Blue Shield paid physicians 92.3% of the more than \$500,000 of charges reported under the UCR Program. Correct coding and accurate reporting of charges henceforth will enable payment of 100% of all customary and prevailing fees.

## LOWER CHARGE FOR SECONDARY PROCEDURE WILL NOT EFFECT PROFILE

Multiple surgical procedures should be reported by separate codes and separate charges. If a less-than-customary charge is made for a procedure performed secondarily during a multiple procedure service, that lesser charge will not be included in recomputation of the physician's customary charge for that procedure.





**Who  
killed  
the  
wicked  
itch**

(and the infection)\*

?

**snow white**  
**Sporostacin Cream**

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(chlordantoin 1% and benzalkonium chloride 0.05%)

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"Probably" effective: For the treatment of vulvovaginal candidiasis.  
Final classification of the less-than-effective indications requires further investigation.

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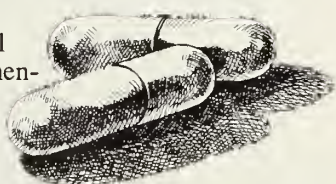


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**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.



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Nutley, New Jersey 07110

# Rondomycin<sup>®</sup>

## (methacycline HCl)

### CONTRAINDICATIONS:

Hypersensitivity to any of the tetracyclines  
**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

**Usage in pregnancy.** (See above **WARNINGS** about use during tooth development.)  
Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage. In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days. Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS: Gastrointestinal** (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

**Renal toxicity:** rise in BUN, apparently dose related (See **WARNINGS**).

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE: Adults**—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea. In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.  
**SUPPLIED:** 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

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# The Journal

of the

## South Carolina Medical Association

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### INTOXICATION WITH PROCYCLIDINE (KEMADRIN), REPORT OF THREE CASES

J. CHRISTOPHER CASTON, M.D.\*  
PATRICIA M. RANDELS, M.D.\*\*  
MARTIN A. KEELER, M.D.\*\*\*

Trihexyphenidyl and its congeners are atropine-like drugs, and are thus well known to be capable of producing mental confusion.<sup>1-4</sup> According to Goodman and Gilman's textbook of pharmacology, "Overdosage produces mental confusion, delirium, agitation and hallucinations."<sup>2</sup> However, clinicians should be alert to the fact that even moderate doses of these drugs may produce or aggravate mental symptoms.<sup>1,3</sup>

Because of the possibility of confusion of symptoms of schizophrenia with the toxic effects of drugs used to treat the extrapyramidal side effects occurring with antipsychotic drugs, and because of the carelessness with which the antiparkinson drugs are commonly administered, it is probable that the antiparkinson drugs complicate the treatment of schizophrenia more often than has been noted.

This is a report of three cases of toxic symptoms associated with procyclidine (Kemadrin), two of which were verified by re-administration of the drug.

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Case 1. A 23-year-old college student was admitted complaining of no sleep for two days. He believed that the TV was sending him personal messages, and he feared that some harm would come to him. He appeared anxious, showed loosening of associations, blocking and poor concentration. Thioridazine 75 mgm t.i.d. was initiated and increased over a period of four days to 400 mgm/day, at which point procyclidine 2.5 mgm b.i.d. was added. On the following day the patient's condition appeared worsened. He described frightening ideas of reference and an elaborate delusional system. Thioridazine was increased to 800 mgm/day and procyclidine was increased to 7.5 mgm/day. On the 6th hospital day the patient appeared confused and agitated. On the 7th day he attempted to leave the hospital, and his medication was changed to chlorpromazine 300 mgm q.i.d., and procyclidine was increased to 10 mgm/day. The patient continued to be very agitated and confused and believed that everything which occurred on the ward was only a television program. On the 11th day chlorpromazine was increased to 1600 mgm/day, but the patient's condition remained unchanged. The nursing staff felt that the patient was receiving drugs from visitors, but a urine screen for drugs was negative except for phenothiazine metabolites.

On the 18th hospital day, because of complaints of blurring of vision and constipation, chlorpromazine was decreased to 1200 mgm/day and procyclidine to 7.5 mgm/day. During the next 24 hours the patient ap-

peared somewhat less confused and agitated, although paranoid delusions persisted. On the 22nd hospital day chlorpromazine was again decreased, to 800 mgm/day; procyclidine dosage remained the same, 7.5 mgm/day. On the following day the patient reverted to marked agitation and confusion. On the 27th hospital day his medication and hospital course were reviewed, and procyclidine was thought to be the probable source of difficulty. Procyclidine was reduced to 2.5 mgm/day and on the 29th day it was discontinued. On that day there was marked behavioral improvement, and the patient observed to his doctor, "You've changed my medicine."

In order to definitely identify a casual relationship between procyclidine and the patient's deteriorating course, procyclidine 10 mgm/day was restarted on the 31st hospital day. Chlorpromazine remained at 800 mgm/day. The nursing personnel were not informed of the experiment, in order to obtain their independent observations. On the 33rd day the patient was confused and agitated, and attempted to leave the hospital. The nursing staff thought the patient was being given drugs "again" (by visitors), but a urine screen for drugs was negative except for phenothiazines. Procyclidine was discontinued, and again within 24 hours there was marked behavioral improvement. On the 37th hospital day some muscular rigidity and slowness of gait were noted, but the patient's mental status continued to improve and further treatment with antiparkinson drugs remained unnecessary.

**Case 2.** A 34-year-old man with repeated admissions for treatment of catatonic and paranoid schizophrenia was brought to the hospital by police from a neighboring city because of eating from garbage cans and "talking strangely." The patient's usual pattern is to wander from place to place, receive hospital treatment until a fair remission is obtained, and to discontinue his medication shortly after discharge. At the time of this admission the patient would talk only about "leading a spiritual life for Jehovah God." His initial medication consisted of trifluoperazine 5 mgm b.i.d. and procyclidine 5 mgm daily. He began to bother other patients by following them and by standing behind their chairs, staring at them. On the 4th hospital day trifluoperazine was increased to 60 mgm/day, and procyclidine to 15 mgm/day. Within 24 hours worsening of symptoms was noted. Now he harrassed other patients about religion, and many interventions were required by the nursing staff to

prevent trouble between him and other patients.

Medication was changed to mesoridazine 200 mgm t.i.d. and procyclidine was decreased to 2.5 mgm daily. There was a gradual diminution in the patient's agitated behavior. He ceased annoying other patients, and was noted to be sleeping well at night. Mesoridazine was decreased to 450 mgm/day on the 11th hospital day, and the patient continued to improve.

Because of the experience with the previous patient, it was decided to subject this patient also to an increased dosage of procyclidine in order to ascertain if procyclidine did indeed have an adverse effect on his behavior. Procyclidine was increased to 10 mgm daily with the result that within 24 hours religious and paranoid delusions became paramount, and the patient was noted to be confused, disoriented and agitated. There was immediate improvement when procyclidine was decreased to 2.5 mgm/day. **Case 3.** A 22-year-old man was brought to the hospital at the request of his parents because of belligerence while drinking. He had had a previous admission for treatment of paranoid schizophrenia, but had voluntarily discontinued medication and out-patient treatment. At the time of this admission he was cooperative, but made threatening comments such as "I'll kill anyone who gets in my way," and he described his mistrust of everyone, fearing that someone was trying to kill him. He was somewhat agitated and loosening of associations was noted. Treatment with chlorpromazine, 200 mgm q.i.d. was initiated, and increased during a period of four days to 1600 mgm/day. On this dosage the patient was sedated; he was argumentative, but not belligerent. On the 9th hospital day muscle rigidity was noted and procyclidine 2.5 mgm t.i.d. was begun. The following day the patient became disoriented and combative. Procyclidine was discontinued and within 24 hours marked behavioral improvement was noted.

### Discussion

Toxic confusional states superimposed on schizophrenia developed in three patients who were receiving procyclidine. The toxic manifestations subsided when the drug was discontinued or decreased. Antiparkinson drugs tend to be treated in a cursory manner in courses and texts on psychopharmacology, and they are commonly used haphazardly in management of the extrapyramidal side effects



## INTOXICATION WITH PROCYCLIDINE

of antipsychotic drugs. These cases emphasize the harm that can occur with their careless use. They also suggest that the recommended dosage for procyclidine (2 to 2.5 mgm t.i.d. with gradual increments up to 10 to 20 mgm daily) may be too high.

These cases point to the necessity of carefully monitoring *all* psychotropic medications.

Special attention should be given to the antiparkinson drugs in any case of worsening symptomatology in a schizophrenic patient. Otherwise a spiraling increase of antipsychotic and antiparkinson drugs, or needless changes in type of antipsychotic drug may be made.

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### *Incidence of Hypothenar Hammer Syndrome*

J. M. LITTLE (Univ. of Sydney, Dept. of Surgery, Sydney, Australia) and D. A. FERGUSON *Arch Surg* 105:684-685 (Nov) 1972

One hundred twenty-seven men working in the transport industry were examined clinically and by ultrasound for symptoms and signs of vascular insufficiency secondary to post-traumatic thrombosis of the superficial palmar branch of the ulnar artery (hypothenar hammer syndrome). Seventy-nine men habitually used their hands as hammers, and findings in 11 suggested hypothenar hammer syndrome. All had symptoms of ischemia. Men with the syndrome were older than those with intact circulation and had been employed in hand hammering jobs longer.

### *Aneurysms and Thromboses of Ulnar Artery in Hand* L. H. MILLENDER *et al* (*Zero Emerson Pl*, Boston 02114) *Arch Surg* 105:686-690 (Nov) 1972

Six cases of aneurysm and thrombosis of the ulnar artery in the hand are presented. The initiating event in the development of aneurysms and thromboses of the ulnar artery is intimal injury associated with trauma. A simple clinical classification is proposed: hypothenar mass without Raynaud's phenomenon; hypothenar mass with Raynaud's phenomenon; and Raynaud's phenomenon without hypothenar mass. Surgical excision of the lesion is the preferred method of treatment.

# CLINICOPATHOLOGICAL CONFERENCE OF THE MEDICAL UNIVERSITY OF SOUTH CAROLINA

## Persistent Epigastric Pain in an Alcoholic with Chronic Pancreatitis and Numerous Bacteria in Gastric Aspirate

CLINICIAN: LOUIE B. JENKINS, M.D.  
RADIOLOGIST: HAROLD S. PETTIT, M.D.  
PATHOLOGIST: JANE T. GAEDE, M.D.  
H. RAWLING PRATT-THOMAS, M.D., EDITOR  
JANE K. UPSHUR, M.D., ASSISTANT EDITOR

A 57-year-old Negro male with a long history of chronic pancreatitis was admitted to the Charleston Veterans Administration Hospital for the third time on October 14, 1971, with the chief complaint of abdominal pain of two to three days duration. The patient had undergone a pancreatic cystojejunostomy with Roux-en-Y loop in 1968 and since that time he had some persistent intermittent abdominal pain. However, approximately one week prior to his present admission this abdominal pain had increased in severity and progressed until he sought medical attention. The pain was described as intermittent, aching, and localized to the epigastrium with radiation to the back. The patient volunteered the information that the pain was somewhat relieved by squatting. There had been no change in bowel movements, no melena, nausea, vomiting or hematemesis.

Past medical history revealed that the patient had been diabetic since 1966 and at the time of admission he was taking 60 units of NPH insulin daily. There was a history of heavy alcohol intake (approximately one quart a day) up until 1968. Since then his intake had been approximately one-half pint daily, until three months prior to admission, at which time the patient allegedly stopped drinking. There was a history of occasional

steatorrhea. There was a questionable history of malaria. The review of systems was negative except for nocturia (two to three times per night).

Physical examination on admission revealed a well nourished, well developed Negro male who was extremely restless. Vital signs were: temperature 98.0°F., pulse 72, respirations 24 and blood pressure 170/100. Tortuosity and arterial narrowing were noted in the fundi. Chest and cardiovascular examinations were within normal limits. Examination of the abdomen revealed a well healed elliptical supra-umbilical surgical scar. There was marked tenderness in the epigastrium without rebound phenomenon. A bruit was detected in the epigastrium by one observer. Bowel sounds were hypoactive. The liver was palpable two finger-breadths below the right costal margin. There was no fluid wave in the abdomen. Rectal examination revealed moderate prostatic hypertrophy but was otherwise negative. The patient was admitted to the Medical Service with the provisional diagnosis of chronic pancreatitis with acute exacerbation, diabetes mellitus, and possible aortic aneurysm. Laboratory data on admission revealed a hemoglobin of 14.4 gm, hematocrit of 45, leucocytes 8,100 with 78 polys, 3 bands, and 19 lymphs, and platelet count of 438,000. Amylase was 86, lipase was

zero. Blood sugar was 402 mg per cent, and the urine contained 4 plus sugar, 2 plus albumin, and moderate acetone, with a specific gravity of 1.022 and a PH of 9. The patient was started on antispasmodic therapy, milk and Maalox every half hour, and a sliding insulin scale for his diabetes. X-ray films of the chest and abdomen were unremarkable except for aortic atherosclerosis.

The day following admission the patient developed tachycardia and fever of 102°F. He also had a transient hypotensive episode with blood pressure of 80/50 which responded to intravenous fluids. Consultation with the gastroenterology service was obtained and supportive therapy was recommended including nasogastric suction, intravenous fluid replacement, anticholinergics, and sedation. An upper G-I series performed on the patient's fifth hospital day revealed an abnormal gastric rugal pattern and a possible filling defect along the greater curvature of the stomach. Carcinoma of the stomach was considered to be the most likely diagnosis; the possibility of chronic pancreatitis with a pseudocyst of the pancreas was raised by some observers. The patient's epigastric pain continued to increase and he developed rebound tenderness in the epigastrium, as well as some bleeding from his nasogastric tube. The patient continued to be febrile. He was transferred to the general surgery service on October 20. At this time his hematocrit was 33, hemoglobin 11.3 grams, platelet count 13,000, protime 35 per cent, leucocytes 15,700 with 78 polys, 16 bands, 5 lymphs and 1 mono. The patient's blood type was O-negative and there was difficulty in finding any compatible blood for him. He was given O-positive packed cells and plasmanate with no appreciable change in his hemoglobin. Paracentesis was performed on October 22; the ascitic fluid contained pus but cultures and cytology were negative. Esophagoscopy revealed a normal esophagus but the esophagoscope could not be passed into the stomach due to mechanical obstruction. Nasogastric aspirate was negative for neoplastic cells but large numbers of bacteria were noted. Urine culture revealed *E. coli* and *pseudomonas* and *E. coli*

was also grown from the patient's blood culture. The patient was begun on Carbenicillin. However, he continued to have fever up to 104°F. and his condition deteriorated. He became obtunded on October 24 and on October 25 he was generally unresponsive to stimulation. He expired at 1:15 a.m. on October 26.

**Dr. Jenkins:** The case for today is a 57-year-old male who had a long history of chronic recurrent pancreatitis whose days had dwindled down to the last precious 12 which he spent at the Veterans Hospital. During the course of his pancreatitis he apparently developed a pancreatic cyst and had a cystojejunostomy some three years before. He had had trouble after that, complaining of intermittent abdominal pain that never actually ceased. This increasingly severe pain was the reason he sought medical attention. At the time of the cystojejunostomy it would have been helpful to know what the gallbladder, stomach and pancreas were actually like. It is, of course, mandatory when performing pancreatic surgery to determine the point of obstruction to the pancreatic duct if it is a duct cyst. We assume that since no mention of those things is made that they were not relevant. The pain he described was intermittent, aching, localized to the epigastrium with radiation to the back and relieved by squatting. Many patients with pancreatic pain find relief in various positions. However, I would have preferred to know what was the relationship of this pain to eating. This would have helped me a great deal more than the fact that he got relief by squatting. The effect of heavy alcohol ingestion is open to question. It appears that he was struck by one of the slings and arrows of outrageous fortune if his passion for booze produced such a distinct change in his pancreas as to produce diabetes and steatorrhea because other people such as Winston Churchill drank almost as much as he did every day and at the age of 57 was on his way to becoming the number one Englishman of the century.

The review of the systems was negative except for nocturia two or three times a night and one assumes a man at the age of 57 either



had mild prostatic hypertrophy or a mild urinary tract infection secondary to prostatic hypertrophy. His physical examination on admission showed a normal temperature, pulse and respiratory rate, but the significant thing was that the man was extremely restless. This always brings my attention up to a quick start because to a surgeon it is an ominous sign. Aside from emotional disturbances, restlessness means to the surgeon the patient has either fever, a drug reaction, such as alcohol withdrawal or that he had a diminishing loose blood volume. There was marked tenderness in the epigastrium without rebound phenomenon indicating that the source of his difficulty was in the epigastric area. The liver was palpated two finger-breadths below the right costal margin, which in view of his alcoholic intake one might expect. Absence of an abdominal fluid wave is significant in view of subsequent developments. Rectal examination revealed moderate hypertrophy, which confirms our suspicions for the reason for nocturia. The most interesting feature in the laboratory data is the recording of a platelet count, and one speculates whether this is intended to be helpful or confusing. Now composers of clinicopathological protocols can be devious and we in turn must be devious. Like a mother hiding Easter eggs for the children to find, the facts are frequently obscured but not necessarily obliterated, but sometimes mother keeps the golden egg to enjoy herself. The amylase of 86 and lipase being zero makes one suspicious that the admission diagnosis of pancreatitis was not confirmed. The blood sugar was 402 being the result of his diabetes and the hyperglycemia of stress. The day following admission he developed tachycardia and fever and a transient hypotensive episode with a blood pressure of 80/50. This may have been the beginning of secondary infection in an area of pancreatic necrosis. Infected pancreatic juices are among the most serious disabilities to which the human race is heir. There is nothing more likely than infected pancreatic juice to bring a surgeon to his knees, and some may say a very becoming attitude for a surgeon because it is an attitude of modesty that is rarely seen.

In his defense one must remember that it takes a lot of conceit to take some patients to the operating room. I think it would be appropriate at this time for Dr. Pettit to discuss the x-ray films.

**Dr. Pettit:** The upper G-I films show an ulcer crater measuring 1.5 cm in length and 5 mm in width projecting from the lesser curvature of the stomach at the angulus. The wall of the stomach is grossly edematous and in the fundus of the stomach, the mucosal folds measure up to 2 cm in diameter. In spite of the marked thickening of the wall of the stomach and of the rugae, the stomach does not have a rigid appearance, as it varies in contour from film to film. Leukemic infiltration and secondary ulceration could produce the changes that we find in these films, but a more likely cause would be a penetrating ulcer with secondary inflammatory changes or phlegmonous gastritis. There is also evidence of the accumulation of fluid in the peritoneal cavity.

**Dr. Jenkins:** Dr. Pettit's interpretation certainly adds some additional dimensions to this case. Continuing to be febrile the patient was transferred to the general surgical service and I would say in view of the laboratory data showing a drop in his hematocrit, a platelet count down to 13,000, a prothrombin time down to 35 per cent it was a wonderful time to put him on the surgical service. At any rate his leucocyte count has increased and obviously something is now going on that introduces a second problem. The patient is losing blood and although he may have been dehydrated on admission, drop of the hematocrit from 45 to 33 in face of the administration of fluid indicates this. The platelet count of 13,000 is intriguing; why did the count fall from 435,000 on admission to 13,000? It could have been on the basis of a spreading infection with toxic depression of the bone marrow but the question arises—could it have occurred in six days? The other possibility, of course, is a thrombocytopenia secondary to some difficulty with the spleen, such as splenic vein thrombosis secondary to an inflamed and infected pancreas with the subsequent appearance of ascites indicating

the thrombosis had extended into the portal vein with secondary portal hypertension. Concealed hemorrhage has to be considered and such sources as erosion of the splenic artery by infection has to be taken into account. The admission physical finding of a bruit may indicate an abnormal aneurysm has now ruptured and is leaking slowly into the retroperitoneal space. The fluid in the abdomen may indicate peritonitis from spreading pancreatic infection or to be secondary to obstruction of the portal vein. Decrease of the prothrombin to 35 per cent may reflect toxic depletion of hepatic function. Paracentesis produced aseptic fluid which contained pus. Has the peritoneal fluid been infected by circulating bacteria derived from a kidney infection and reaching the peritoneum along with leaking serum? Or does it represent spread from an infected pancreatitis?

It appears that the nasogastric tube would pass into the stomach but the more rigid esophagoscope would not. I don't know whether this reflects inexperience of the operator or accentuation of the usual anatomy of the stomach and esophagus, as the esophagus normally turns quite sharply to the left just above the gastro-esophageal junction. There may have been displacement of the stomach by a mass or some intrinsic obstructive lesion. The naso-gastric aspirate yielded no neoplastic cells but large numbers of bacteria were revealed, which introduces another pattern of thinking. The obvious easy possibility would be pancreatic necrosis and infection with abscess of the lesser omental sac which ruptured into the stomach. If it did rupture into the stomach why didn't the patient get better with this drainage?

We can summarize this discussion by saying there were two problems, infection and concealed blood loss and the source of each. Because of his previous difficulty with pancreatitis one seizes upon a recurrent episode or infection and rupture of a pseudocyst. Pancreatitis is not supported by the laboratory data and the x-ray film certainly suggests involvement of the gastric wall. The latter may have been a complication of pancreatitis with abscess of the lesser omental sac which ex-

tended to produce a phlegmonous type of gastric infection. There may have been a gastric ulcer which caused extensive infection of the stomach wall with eventual perforation, although I could not see any free air when Dr. Pettit exhibited the films. We know nothing about the gallbladder; it could have been completely obstructed with resultant hydrops, secondary infection and rupture without bile being detected on paracentesis. Bacterial infection ultimately caused his death. I can only speculate whether this was by means of endotoxic shock or with disseminated pyemic abscesses throughout the viscera. The second problem was that of concealed blood loss. I suspect this was occurring, but it need not have been. The *E. coli* septicemia could have been destroying erythrocytes. In addition splenic or portal vein thrombosis may have trapped blood in the spleen and portal system so that although the patient appeared to be losing blood, this was actually not the case, the blood being trapped in reservoirs whereby it could not readily return to the circulation. My diagnoses then are: Lesser omental bursal abscess from either acute pancreatitis or a penetrating gastric ulcer; thrombophlebitis of portal and splenic veins; septicemia.

**Dr. Richardson:** I suspect that disseminated intravascular coagulation is the explanation for both his prothrombin time and his platelet fall. I was very impressed with his dramatic x-ray appearance of that stomach. It really was most extraordinary and the combination of the patient being diabetic, having pus in the lesser sac, and retrieving organisms from the stomach makes me wonder if we don't have a relatively rare bird, namely pyogenic gastritis in this man. I would lean a little bit against reticulum cell sarcoma just because of the violence of the illness.

**Dr. Gaede:** The principal pathological diagnoses are: (1) Acute phlegmonous gastritis with acute peritonitis, (2) Organizing pylephlebitis of portal vein with abscesses and infarcts of liver, (3) Severe chronic pancreatitis. A cholecystectomy was performed in 1968 at the time he had the pancreatic cystojejunostomy. There was no recurrent pseudocyst formation and no acute pancreatitis. There





Figure 1. Phlegmonous gastritis showing discoloration and broad, swollen rugae. At top of photograph, marked by white pointer, the thickened gastric wall is shown in cross section.

is almost complete replacement of the pancreatic parenchyma by dense glistening white fibrous tissue, a tremendous degree of pancreatic fibrosis. The stomach has a mottled, hemorrhagic and black appearance, with tremendous thickening of the gastric wall. The broadened mucosal folds are lifted up by the diffuse phlegmonous exudate beneath them. (Figure 1) This process was extensive and involved the entire stomach. Small perforations may be seen on the mucosal surface. The gastric phlegmon will commonly rupture through the mucosal surface and provide the source of bacteria or even frank pus that will be obtained by nasogastric suction or from the patient vomiting it. A full thickness histologic section of the gastric wall shows one of these perforations. (Figure 2) Between the mucosa and the muscle coats there is a sea of pus and fragments of necrotic submucosa. Thrombi are present in the vessels supplying the mucosa and submucosa which contribute to hemorrhage, further necrosis of the tissues and extension of the process. Large abscesses were present throughout the liver and beneath the capsule there were areas of infarction. (Figure 3) Recent organizing thrombi were evident in branches of the portal vein.

Acute phlegmonous gastritis was first recognized by Galen in 1600. The first thorough pathologic description was recorded by Verandaeus in 1617. In the last 149 years 390 case reports have appeared in the literature for a world incidence of less than three cases

per year. It is thus unlikely that a single physician would ever see more than one case. However, increased use of immuno-suppressive drugs and broad spectrum antibiotics may lead to increasing incidence in the future. The condition carries a high mortality rate and is extremely difficult to diagnose prior to operation or autopsy. For these reasons, it is worthwhile to review the subject so that it will be kept in mind in the differential diagnosis of obscure abdominal conditions.

Phlegmonous gastritis is a pyogenic infection of the stomach which begins as a localized cellulitis and may become either a circumscribed abscess or a diffuse phlegmon. The process is usually confined to the stomach, not extending beyond the cardia or the pylorus, although rare cases have been re-



Figure 2. Low power view of stomach wall with mucosa at top and muscle coat at bottom. Arrow marks a mucosal perforation, allowing the suppurative material in the gastric wall to escape into the lumen.



ported of the phlegmon extending nearly the entire length of the G-I tract. The process has occurred following erysipelas, furunculosis, scarlet fever, tonsillitis, tooth extractions, puerperal complications, endocarditis, and surgical procedures on the stomach or elsewhere in the abdomen. As yet there has been no adequate explanation of such discrete localization to the stomach of a systemic process. Predisposing factors include chronic alcoholism, as was present in this case, chronic gastritis, and gastric hypoacidity.

Clinical diagnosis is extremely difficult. The diagnosis of gastric carcinoma is often made radiologically. Pre-operative diagnoses include ruptured viscus, acute pancreatitis, acute cholecystitis, perforated gastric ulcer and others.

Phlegmonous gastritis is more common in males by a ratio of 3:1 and most often occurs in the age range from 30-60. In the most fulminant cases, death may occur within a few hours, but more commonly the clinical course is from a few days to several weeks. The most constant presenting symptom is severe epigastric pain. Deininger's sign, the alleviation or disappearance of the abdominal pain upon assuming the sitting position, is described. This patient's observation that his pain was relieved by squatting may represent a variant of this phenomenon. Nausea and vomiting, fever, and leukocytosis are frequently but not invariably present. Rarely there may be vomiting of pus which gives a more specific diagnostic clue to the process. Positive cultures of the offending organism may frequently be obtained from the gastric aspirate. The most commonly isolated organ-



Figure 3. Hepatic abscesses are shown to the right and left with subcapsular infarcts beneath the upper border of the photograph.

ism is the streptococcus, accounting for over 70 per cent of cases, but *E. coli*, Staph, pneumococcus, *Proteus*, and *Clostridia* have also been reported. The present case is attributed to *E. coli*, as this organism was isolated from blood cultures ante-mortem and was also present in the histologic sections of the stomach. The numerous bacteria present in the nasogastric aspirate were also small rods morphologically consistent with *E. coli*.

Complications include peritonitis which occurs in over 80 per cent of cases and was present in this patient.

Severe gastric hemorrhage may occur. Pylephlebitis and liver abscesses may develop, as were seen in this patient, as well as perigastric and subhepatic abscesses.

In the past the mortality rate of acute phlegmonous gastritis has been around 90 per cent. Total or subtotal gastrectomy with vigorous antibiotic therapy supplemented with *supportive care may offer some reduction* in this mortality figure.

## THE CAROLINA ACUPUNCTURER

JOSEPH I. WARING, M.D.

Charleston, S. C.

The present concern with the virtues of acupuncture leads us to search for evidence that this process has been tried in this area. As reported recently in the *New England Journal of Medicine*, a keen reader has found mention of the use of acupuncture in South Carolina as early as 1836. John W. Howard, associate professor of dental literature at West Virginia University School of Dentistry, drew attention to an item which appeared in the *Boston Medical and Surgical Journal* of September 14, 1836. The title was "Acupuncture As A Remedy for Rheumatism". It appears that the identical article had appeared in the *Southern Medical and Surgical Journal* in August of 1836. Written by William Markley Lee of Indiantown, South Carolina, it draws attention to the benefits of the insertion of ordinary needles in several conditions, more particularly in rheumatism, a term which covered a rather wide variety of disabilities.

Dr. Lee writes with enthusiasm of the results which he obtained. In the paper he describes several patients who were benefited and considers that acupuncture has a wide field of application and promise. One of his patients, an old Negro woman, was relieved of rheumatism "for several days". Another patient with torticollis felt only slight pain when the needles were inserted and was relieved permanently within 15 minutes. A seaman with what appears to have been some inflammatory process in his deltoid muscle protested that the treatment was very painful and refused to have it repeated. A young man who

fainted when the needles were inserted also declined to have another try. Dr. Lee himself speaks of his own rheumatism which followed the dislocation of the clavicle and confessed that he suffered some acute pain from the needle, but was relieved in 15 minutes. However, the pain returned in a few months. He states that he used the process often in some instances of acute rheumatism and that ordinarily it was not painful.

Dr. Lee was graduated from the Medical College of South Carolina in 1826, afterwards practicing in Charleston and becoming a member of the Medical Society there. At some later date he removed to Indiantown, S. C., a hamlet in Williamsburg County. In addition to his twice published paper on acupuncture, he wrote an article on verminous irritation which appeared in the *Southern Medical and Surgical Journal* in January of 1837.



Another Method for Relieving Pain.

## NURSING SERVICE IN GUY'S HOSPITAL, LONDON

GRADY HENDRIX, M.D.\*

I had the privilege of serving as a consultant in cardiology at Guy's Hospital, London, from July 1, 1971, to June 30, 1972, while on sabbatical from the Medical University of South Carolina, Charleston, S. C. The quality and quantity of the nurses in this hospital greatly impressed me and I felt the readers of the journal would be interested in these impressions.

The British Nurse is very dedicated and respected and delivers nursing care of a high quality. The head nurse on the ward carries the title of Sister which has no religious inferences. The other nurses carry the title of staff nurse. They are addressed as such and if their last name is unknown to one they are not offended whatsoever by being addressed simply as sister or staff nurse.

She is a product of a three-year certificate granting program with the emphasis on bedside nursing. The student nurse works on the wards on all shifts and on all days and performs nursing duties under the supervision of the graduate nurses. She performs all duties related to patient care including such things as suture removals and venipunctures.

The only person other than a physician who touches a patient or writes on a patient's chart is a graduate or student nurse. A male "porter" is available in a porter's lodge to come and move patients and to transport patients. He is not allowed to loiter on the ward and

must leave as soon as the purpose of his call is completed. The only person on the ward, other than physicians and nurses, is a female ward clerk during the day and her function is to answer the phone, deliver messages, make appointments, etc. Nurses and student nurses awake, bathe, and prep the patients as well as change linen and make beds. They take and record vital signs, prepare and deliver trays, and feed the patients in addition to the other duties such as medications and treatments. Every item of hospital care is administered by them. Food is delivered to the ward in large pots and pans on a cart where the portions are served onto the plates by a graduate nurse and taken to the bedside for bedridden patients or to the table for ambulatory patients by graduate or student nurses. I found this intriguing and amazingly smooth.

The wards contain 20 to 30 beds. When normal rounds are made, the patient is in his bed with the chart and x-ray films at the bedside and the sister is always attendant, as well as any staff nurse or student nurses who are available. They can relate what is going on with the patient on the ward and details of his nursing care. One can simply instruct the nurse to carry out many functions at the bedside and orders do not have to be written for trivial events.

There was no shortage of nurses, and the wards and specialized areas were well staffed. They worked rotating shifts for salaries approximately 1/2 those for similar duties in this country. The employer was the National Health Service, so there was no way that one could improve their hours or salary by going from one hospital to another, so there was a

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low rate of turnover. They could improve their lot only by advancing up the professional scale and by longevity, and there was no competition between hospitals financially

or otherwise. Therefore, one could usually advance more rapidly by doing good work where they were. Nursing remains an attractive profession for young British girls today.

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*Late "Catch-up" Growth After Severe Infantile Malnutrition*

G. G. GRAHAM (Johns Hopkins Univ. Baltimore 21105) and B. ADRIANZEN T. Johns Hopkins Med J 131:204-211 (Sept) 1972

Of more than 150 Peruvian children admitted to hospital with severe infantile malnutrition, eight experienced a dramatic improvement in their home environment, usually through adoption, and at the mean age of 9 years have reached the 25th percentile for height of a US standard. Eight other children matched for age and severity of undernutrition on admission remained in their original homes and are still below the third percentile. In both groups, head circumference is appropriate to their age rather than to chronologic age. Prognosis for ultimate stature and head size in man is more a function of the environment and nutrition during the entire growth period than during any finite period of malnutrition.

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*Pulmonary Arterial Pressure as Guide to Hemodynamic Status of Surgical Patients*

J. B. SHAREFKIN (300 Brookline Ave, Boston 02215) and J. MacARTHUR Arch Surg 105:699-704 (Nov) 1972

Eleven patients underwent surgery with CVP and pulmonary artery (PA) pressure monitoring. PA pressures were monitored without adverse effects using the flow-directed Swan-Ganz catheter. In operations with minor blood loss, PA pressure was stable except for transient peaks during incision and at extubation. In patients with prior evidence of heart disease, and who had operations with large volume losses, PA pressure was a sensitive and reliable index of circulatory overload. Levels of PA end-diastolic pressure compatible with pulmonary edema were recorded despite normal CVP values in several such patients.

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*Familial Thymic Aplasia: Attempted Reconstitution With Fetal Thymus*

R. W. STEELE et al (Georgetown Univ. School of Medicine, Washington, DC 20007) New Eng J Med 287:787-790 (Oct) 1972

Fetal thymus was implanted into a 10-week-old female infant with congenital aplasia of the thymus and parathyroid glands (diGeorge syndrome). Phytohemagglutinin-induced transformation of circulating lymphocytes was demonstrated as early as six hours after implantation of the thymus. Immunologic studies prior to the implant revealed cell-mediated immune function, but adequate humoral immunity. The infant expired from aspiration pneumonia nine days after the thymic implantation and postmortem examination confirmed the absence of thymus and parathyroid glands. A maternal half-brother who had expired from *P carinii* pneumonia at 4 months of age also had congenital absence of the thymus and parathyroid glands at necropsy. The mother was shown to have hypoparathyroidism and diminished cell-mediated immunity.

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*Fogarty Catheter Removal of Cervical Esophageal Meat Bolus: Steak-Eater's Disease*

R. A. DIETER, Jr. et al (454 Pennsylvania Ave, Glen Ellyn, Ill 60137) Arch Surg 105:790-791 (Nov) 1972

Two patients with steak-eater's disease or obstruction of the cervical esophagus by meat, in whom severe choking and dyspnea occurred are presented. One patient became cyanotic. The meat was removed with a Fogarty balloon catheter passed beyond the obstruction. Immediate relief was obtained.

# President's Page



It would behoove the medical profession of this State and of this Nation to reflect upon the very serious and deleterious effects that the passage of so-called HR-1 (public law 92-603) will have upon the practice of medicine in the future. It is a further step towards nationalization of medicine and ultimately control by federal bureaucracy. For the present, the provisions of the professional standards review organization section of the law call for rules and regulations which will force physicians to justify their medical decisions to federal employees and to conform to imposed standards of diagnosis and treatment in the care of Medicare, Medicaid and other specified groups of patients.

In conforming to standards in diagnosis and treatment, which the law prescribes, it is possible that penalties in the form of fines up to \$5,000.00 may be imposed on physicians who may be found to have a variation in judgment from average normal, either in clinical judgment, or in the economics of the cost of the diagnosis and treatment of a patient. Further, a physician will be guilty until he proves himself innocent. Appeals may be made by the physician to the secretary of HEW, who will be the same authority who found him guilty initially. The law envisions that most utilization review, tissue and other committees as now constituted will probably no longer exist or be recognized, and doctors will have to justify medical decisions in advance.

There would seem no doubt that the intention of the federal government is to direct and control delivery of medical and health care to the American people. It would appear that medical societies are not going to run the PSRO's. Instead, it is believed that medical societies will become tools of HEW clerks who will control doctors.

As a result of the passage of public law 92-603, it is believed that gratification in the practice of medicine in almost any of its phases is bound to suffer, and I am not talking about the pecuniary aspects of medical practice. I am talking about the quality of medical care to be rendered to the public. The introduction of new questionnaires and the probable retroactive denials of payments to hospitals, doctors, and patients, such as we have already seen, are bound to work ultimately to the detriment of the suffering patient.

Edward F. Parker, M. D.

# Editorials

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H. S. T.

## In Memoriam

Harry Truman died just after Christmas. We would like to remember him as a brave, whistle-stopping, surprise winner in 1948. We want to remember his desk sign, "The Buck Stops Here," and his favorite saying, "If you can't stand the heat, get out of the kitchen." We enjoy the memory of his retort, "That stupid S.O.B.," to the critic who said his daughter Margaret would never make it as a concert soprano.

But instead, sad to say, most of us will remember Harry Truman as a dying old man whose daily medical status, including urine output, heart rate and regularity and state of consciousness were subjects of frequent news reports. His final hours on earth were robbed of dignity.

Now, we could blame the news media for this, and they certainly showed an awesome lack of savoir faire. But we of the medical profession must share the blame and perhaps learn much from this incident in American history. We physicians must re-evaluate our concepts of dying and death and our part in these processes. What more fitting tribute to a great and gutty president could there be than a frank facing of our ineptitude in management of the dying and a new game plan that could allow a man to retain his dignity, even unto death.

E.E.K.

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## Where Our State Is At (Behind the At)

My sixth grade teacher, Miss Lynda Syfan, a blue-haired spinster of the old school even then, always answered any question ending with "at," by saying, "Behind the at." Because of her, few graduates of Candler Street School would ever ask, "Where is it at?"

No matter the phraseology, and no matter

the question, our state of South Carolina is usually "behind the at."

Vance Packard,<sup>1</sup> in extensive research in preparation for "A Nation of Strangers" noted three indications of a failing area:

1. Doctors and Dentists in large numbers settle elsewhere.
2. Quality stores locate elsewhere.
3. The better teachers in the local schools get themselves transferred elsewhere.

Some thoughts on these indicators as they apply to South Carolina:

In the pro rata graduation of M.D.s, South Carolina ranks in the middle third, yet South Carolina is forty-seventh of the fifty states in physicians (76 per 100,000). In dentists, South Carolina ranks a cold fiftieth (23 per 100,000).

Quality stores we do not have in South Carolina. No F.A.O. Schwartz, no Abercrombie and Fitch, nothing like a Calvert's Liquor Store or a Norm Thompson's, no fine botiques (thank goodness!) or specialty stores. *Esquire*, *Realities*, and *Playboy* advertisements frequently have lists of stores where the better products can be bought. Often, South Carolina is omitted from the list as no stores here carry these high class products.

As far as teachers are concerned, almost everyone is aware that our public schools are losing not only many of the better teachers, but also many of the better students. This is a true tragedy of major proportions. We look at our institutions of higher learning and are overjoyed at the strengths of their faculty. Their development has been impressive, but when you consider U.S.C. or Clemson vis-a-vis U.N.C. or the University of Virginia, or Furman or Wofford vs. Duke or Vanderbilt, then it appears we may be advancing backward. It has even been rumored that Bob Jones University has lost a professor or two to Oral Roberts University.



From these considerations, it seems that South Carolina meets Packard's criteria for a failing area, that South Carolina is truly "behind the at."

But if these simple mendicancies dismay you, just wait till next month, when this story

of unfulfillment will continue with "The Forty-Ninth State (And We Do Not Mean Alaska)."

E.E.K.

REFERENCE

I. Packard, Vance: A Nation of Strangers, New York, 1972. David McKay Company, Inc.

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## LETTER TO THE EDITOR

"Dear Dr. Kimbrough:

Through this letter I would like to thank all of the members of the State Medical Association who replied to the 'Fire Ant Questionnaire' which was sent to them recently. The results of the survey will be printed in *The Journal* as soon as all tabulations have been made.

Physicians from all phases and specialties of medicine responded. I appreciate this. I also appreciate the many comments and personal notes which were received. One observation which is most important and already apparent is that none of the pathologists who replied to the questionnaire have seen death

due to fire ant stings as far as they can determine.

The purpose of this survey is to attempt to determine the medical impact of the imported fire ant in South Carolina. To those who are concerned about extensive pesticide treatment programs, my personal opinion is that I do not believe it would be possible to eradicate the fire ant, and neither have I ever thought it desirable to annihilate a whole species of life under any circumstances.

Sincerely,  
Laurie L. Brown, M.D.  
Associate Professor of Anesthesiology  
Chief of Anesthesiology  
Veterans Administration Hospital"



## 50 YEARS AGO

February 1923

Dr. William R. Barron of Columbia wrote on prostatic surgery. Dr. C. B. Epps of Sumter expounded the deficiencies and dangers of chiropractic. The Columbia Medical Society had 93 members.

## OPPORTUNITIES IN SOUTH CAROLINA

WANTED — Medical staff members of the Piedmont Health Care Corporation, newly-established to serve the northwestern region of South Carolina. Opportunity to participate fully in a comprehensive community-based, family-centered health care service program on a team basis with attractive working conditions, income, and liberal fringe benefits. Teaching relationship with family practice residency training program may be arranged. Living in beautiful Piedmont Region of South Carolina is added attraction. Must have or obtain license in South Carolina.

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Pathologist for Bureau of Laboratories, South Carolina State Board of Health. Supervise

laboratory facilities of 200 bed respiratory disease hospital (State Park Health Center) and those State laboratory sections performing hemoglobin electrophoresis, detection of in-born errors of metabolism, cytogenetics, immunology, syphilis serology and implementation of South Carolina Laboratory Licensure Act. Salary plus fringes.

For details, please write to:

Arthur F. DiSalvo, M.D.  
Chief, Bureau of Laboratories  
S. C. State Board of Health  
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## SCMA

Today I received a bill for \$215 from the South Carolina Medical Association and a bill for \$125 from the Columbia Medical Association. I see by the minutes of a meeting of the Executive Committee, Council of the South Carolina Medical Association (printed elsewhere in this issue), that the South Carolina Medical Association will have to raise dues next year.

I know you have these same bills and same problems I do, so I thought the following might be appropriate at this time:

DOCTOR, THE SOUTH CAROLINA  
MEDICAL ASSOCIATION NEEDS

YOU — and to a greater extent, you need the South Carolina Medical Association. Here's why:

1. Strange things are happening in medicine — National legislation is aimed at changing the way you do things. Legislation is annually introduced on the state level too, that would alter your medical practice — your professional association fights for you in the Halls of the State House.
2. Medicare and Medicaid laws are continually being revised and reinterpreted. Drug formularies, standards of

# Who knows what evil lurks in the mucous membranes?

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Each Spansule<sup>®</sup> (brand of sustained release capsule) contains 8 mg. of Teldrin<sup>®</sup> (brand of chlorpheniramine maleate); 50 mg. of phenylpropanolamine hydrochloride; and 2.5 mg. of isopropamide, as the iodide.

Knows the public's enemies — nasal congestion, runny nose, sneezing, watery eyes.

Knows what to do about them too.

All through the dark night of upper respiratory difficulty, while ordinary cold remedies wear off, the decongestant, antihistamine, and drying agent in 'Ornade' fight the never-ending battle for comfort, symptomatic relief, and free airways.

Ornade<sup>®</sup>. Why not let it help fight your patient's cold war.

Before prescribing, see complete prescribing information in SK&F literature or PDR.

**Indications:** Upper respiratory congestion and hypersecretion associated with: the common cold; acute and chronic sinusitis; vasomotor rhinitis; allergic rhinitis (hay fever, "rose fever," etc.).

**Contraindications:** Hypersensitivity to any component; concurrent MAO inhibitor therapy; severe hypertension; bronchial asthma; coronary artery disease; stenosing peptic ulcer; pyloroduodenal or bladder neck obstruction. Children under 6.

**Warnings:** Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Warn patients of possible additive effects with alcohol and other CNS depressants.

**Usage in Pregnancy:** In pregnancy, nursing mothers and women who might bear children, weigh potential benefits against hazards. Inhibition of lactation may occur.

**Effect on PBI Determination and  $I^{131}$  Uptake:** Isopropamide iodide may alter PBI test results and will suppress  $I^{131}$  uptake. Substitute thyroid tests unaffected by exogenous iodides.

**Precautions:** Use cautiously in persons with cardiovascular disease, glaucoma, prostatic hypertrophy, hyperthyroidism.

**Adverse Reactions:** Drowsiness, excessive dryness of nose, throat or mouth; nervousness; or insomnia. Also, nausea, vomiting, epigastric distress, diarrhea, rash, dizziness, weakness, chest tightness, angina pain, abdominal pain, irritability, palpitation, headache, incoordination, tremor, dysuria, difficulty in urination, thrombocytopenia, leukopenia, convulsions, hypertension, hypotension, anorexia, constipation, visual disturbances, iodine toxicity (acne, parotitis).

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Clinical evidence clearly suggests that  
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Searle offers three pill formulations, each with a different  
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Demulen is well suited to those women  
for whom low-dose estrogenic activity may be preferred.

Demulen has only 50 mcg. of estrogen and is moderate  
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if it occurs, is most commonly  
seen in the first few cycles.

Certain women requiring a minimal  
level of estrogenic activity  
may do well on Demulen.

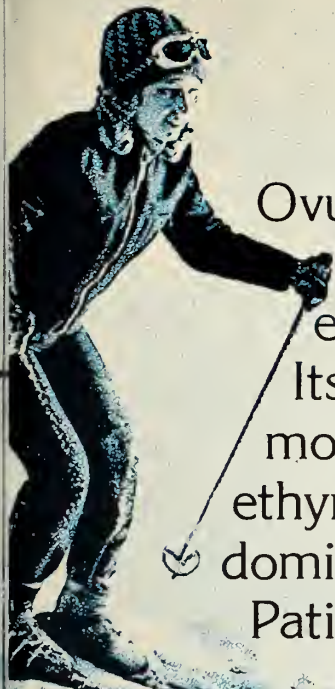
**for high estrogen profiles and for  
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Each white tablet contains:  
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Note: Oral contraceptives are complex medication.  
They should be prescribed with care only after  
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Ovulen is a well-balanced oral contraceptive with an excellent record of patient acceptance.

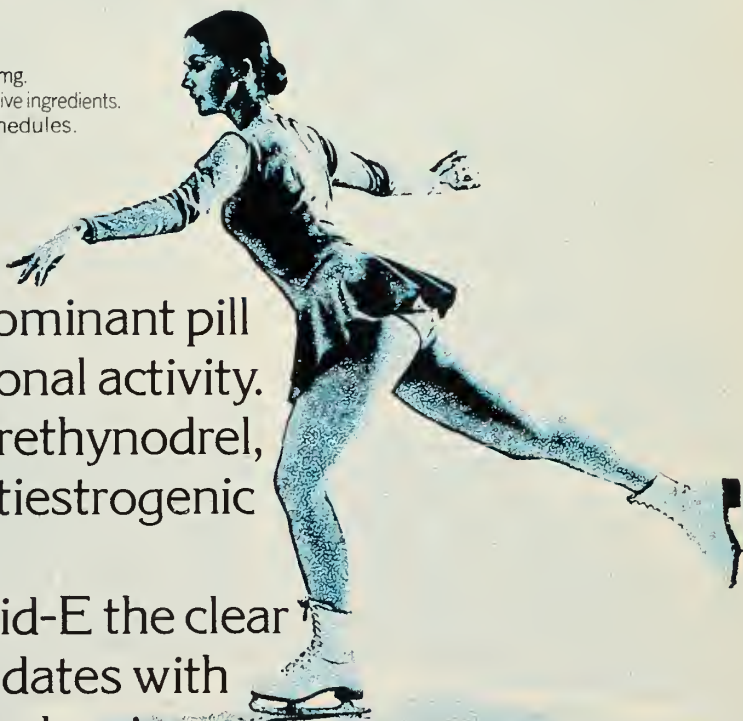
Its estrogen, 100 mcg. of mestranol, is relatively moderate in activity. Its 1 mg. of progestogen, ethynodiol diacetate, gives it a slight dominance in progestational activity.

Patients having problems on other pills often do well on Ovulen. for balanced profiles,

with normal menstruation

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Each white tablet contains: ethynodiol diacetate 1 mg./mestranol 0.1 mg.  
A pink tablet in Ovulen-28® and Demulen-28® is a placebo, containing no active ingredients.  
Both Ovulen and Demulen are available in 21- and 28-pill schedules.



Enovid-E is an estrogen-dominant pill with low progestational activity. Its unique progestogen, norethynodrel, is estrogenic and is not antiestrogenic or androgenic in activity.

This probably makes Enovid-E the clear choice for those "pill" candidates with acne, hirsutism, masculine tendencies or apparent estrogen deficiency.

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Each pink tablet in Ovulen-28® and Demulen 28® is a placebo, containing no active ingredients.

**Actions**—Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Special note**—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in sub-primate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication**—Ovulen and Demulen are indicated for oral contraception.

**Contraindications**—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings**—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain<sup>1,2</sup> leading to this conclusion, and one<sup>3</sup> in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll<sup>3</sup> was about sevenfold, while Sartwell and associates<sup>4</sup> in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions**—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of sub-primate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations pre-existing uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and

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the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives**—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfinbromophthalen retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine and decrease in T<sub>4</sub> uptake values; metyrapone test and pregnanediol determination.

**References:** 1. Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, *J. Coll. Gen. Pract.* 13:267-279 (May) 1967. 2. Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, *Brit. Med. J.* 2:193-199 (April 27) 1968. 3. Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, *Brit. Med. J.* 2:651-657 (June 14) 1969. 4. Sartwell, P. E., Masi, A. T., Arthes, F. G., Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives. An Epidemiologic Case-Control Study, *Amer. J. Epidemiol.* 90:365-380 (Nov) 1969.

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**Indication**—Enovid-E is indicated for oral contraception.

The Special Note, Contraindications, Warnings, Precautions and Adverse Reactions listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

## Enovid-E®

brand of norethynodrel with mestranol

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medical services, fees, etc., are under continuous scrutiny — organized medicine is your voice.

3. New approaches are needed to combat problems we didn't have years ago. Air pollution, highway emergencies, drug abuse, and many other conditions require an organized approach to problem solving — Individual efforts, while praiseworthy, simply won't do the job.
4. With the advent of some sort of compulsory National Health Insurance plan — Government may require that existing medical associations and their Foundations be spokesmen for medicine. Individual physicians may have virtually no voice in decision making.
5. Other organizations have a much better track record of unity than medicine. This must change if medicine is to have any say so in the way things will be in the years ahead. Medical Unions are not the answer, but Medical Unity is!
6. The South Carolina Medical Association is *YOUR PROFESSIONAL OR-*

GANIZATION — without your support . . . .

Incidental considerations:

- ... Full utilization of resources of executive staff (surveys, medical reports, practice information).
- ... Physician Placement Service.
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- ... Membership dues (no matter what they are) are tax deductible.
- ... Opportunity for committee work in your area of interest — (medical services, public relations, public health, Industrial Medicine, etc., etc.).
- ... Opportunity to work for the political good of medicine by joining SOCPAC (S. C. Political Actions Committee of SCMA).
- ... Group-rates Malpractice Insurance.
- ... Opportunities are available for professional writing in your JOURNAL of the South Carolina Medical Association.

E.E.K.

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## MINUTES OF THE MEETING OF EXECUTIVE COMMITTEE COUNCIL OF THE SOUTH CAROLINA MEDICAL ASSOCIATION

The Executive Committee of the Council of SCMA met at the office of Dr. Waitus O. Tanner, on November 19, 1972, at 11:00 a.m.

Present were Dr. Waitus O. Tanner, Dr. Harold P. Hope, Dr. D. Strother Pope and Mr. M. L. Meadors.

Mr. Joe Sullivan appeared before the Executive Committee to request the endorsement of SCMA of Blue Cross-Blue Shield's participation in a test project of the Uniform Medical Procedure Terminology and Code System. Mr. Sullivan pointed out that AMA has endorsed the program and emphasized that the program was instigated by HEW and not by Blue Cross-Blue Shield. The test will involve approximately 200 doctors throughout the state to be selected by an out-of-state firm. It is Mr. Sullivan's opinion that

the coding system being tested will be a step in the right direction to dissolve the problems now existing in the Medicare and Medicaid programs. Dr. Pope moved that the committee give Mr. Sullivan a preliminary endorsement with the feeling that same will be approved by the full Council and the Association. Dr. Hope seconded. Motion voted on and carried.

Mr. Meadors, in conjunction with Mr. Sullivan, will formulate a letter of endorsement, to be forwarded to participating doctors.

Dr. Tanner said that Dr. Edward Parker has been requested by the Optometric Association to have a representative of SCMA meet with them in an effort to better understand each others' problems. After much discussion, it was the committee's opinion that Dr. Parker meet with the President of the

Ophthalmologist Society to get their views on the matter. Heretofore, it has been their opinion that there is nothing to discuss with the Optometrists. If the Ophthalmologist Society approves of such a meeting, then Council will go along with it. It was pointed out too that the Professor of Ophthalmology at the Medical University has been requested by the President of the Medical University to speak to a meeting of Optometrists.

Dr. Edmund Taylor, Columbia, appeared before the Committee to emphasize the importance of the Emergency Medical Care Committee and stressed the fact that the members of that committee should be men who are dedicated to that particular cause as well as being dedicated to medicine. He, acting as Chairman of that committee, had appointed the following members and requested Council's sanction of such action:

Dr. Richard Wilson, Spartanburg; Dr. Joseph Brice, Jr., Roek Hill; Dr. Hiram Curry, Charleston; Dr. Hunter Stokes, Florence; Dr. Robert Soloman, Moncks Corner; Dr. Victor Cornett, Greenville, and Dr. William Armstrong, Georgetown. Drs. Max S. Rittenbury, Edward C. O'Bryan and Emmett M. Lunceford, Jr., are already members.

It is also Dr. Taylor's feeling that since this committee is so important and active that it should be made into a separate committee rather than a sub-committee.

Dr. Pope moved that the Executive Committee endorse Dr. Taylor's action in increasing the size of this sub-committee, that Dr. Taylor and his committee be commended for the job they are doing, that the size of the committee be left to the discretion of Dr. Taylor and that said committee apply for any grants which may become available. Dr. Hope seconded. Dr. Pope suggested to Dr. Taylor

that he may wish to appoint a doctor from each medical district to this committee. Motion voted on and carried.

Dr. Hope moved that Dr. Taylor's representation of the South Carolina Medical Association on the Emergency Medical Care Council of the State Board of Health be endorsed. Dr. Pope seconded. Motion voted on and carried.

It is the feeling of the Executive Committee that perhaps a study of the entire committee structure would be advisable. In the future, the Executive Committee will study and discuss the duties and composition of at least one committee at every meeting.

Dr. Tanner read a letter from Dr. Waring stating that if TV spots and weekly news items in the papers are to be continued, at least \$2,000 must be budgeted for this purpose. Mr. Meadors and Mr. Pugh are to concentrate on the public relations phase of the Association and it is Mr. Meadors' feeling that same can be much more effective than in the past. Samples of what they propose will be brought to the next Executive Committee meeting.

Mr. Meadors warned about the effects of the Social Security Act which is now law in regard to PSRO. Medical organizations have until January 1, 1974, to put certain things into effect. The Peer Review is part of it and it is Mr. Meadors' opinion that the Foundation is ideal, with a few very minor changes, for South Carolina's PSRO. It is also the thinking of the Executive Committee that when the Foundation really gets to functioning, it will be too much for Council to act for the Foundation as well as for the SCMA. At that time, it might be wise to form another guiding hand for the Foundation.

D. STROTHER POPE, M.D.  
Secretary

# **SOUTH CAROLINA MEDICAL ASSOCIATION**

## **MINUTES**

### **EXECUTIVE COMMITTEE**

December 21, 1972

Dr. Waitus Tanner called the meeting to order at 4:00 p.m. this date at his office. In attendance were Dr. Tanner, Chairman of Council, Dr. Harold Hope, President-elect, Dr. Strother Pope, Secretary, Dr. Howard Stokes, Treasurer, Mr. M. L. Meadors, and Mr. Richard Pugh.

Dr. Tanner opened the meeting by asking Dr. Stokes to give a treasurer's report. Expected revenues for 1972 will be approximately \$157,000 by year's end; expected expenses have been placed at approximately \$163,000 leaving a deficit of approximately \$6,000.

Dr. Stokes stated that the Association is going to have to have more money in order to operate. Printing expenses for the JOURNAL have continued to increase as have all other expenses. Another source of income or a dues increase will have to be considered.

One source of revenue discussed was that of charging a registration fee for attendance at the Association's Annual Meeting. Such a fee would include whatever official luncheons, breakfasts, and banquets scheduled for the meeting and would help defray the increasing costs of the meeting while quite possibly increasing attendance.

Dr. Harold Hope suggested that a grass roots effort be undertaken to inform the membership if a dues increase and registration fee are instituted.

After much discussion, Dr. Pope made the following motion:

"The Executive Committee recommends to Council and that Council recommend to the House of Delegates meeting in May, 1973, that the annual dues of the Association be increased by \$25.00 beginning in 1974. The Executive Committee also recommends to Council that a registration fee of \$30.00 be charged at the 1973 Annual Meeting which will include the scientific section breakfast

and the annual banquet." The motion was seconded and carried by a unanimous vote.

Dr. Stokes moved:

"That the policy of reimbursing the President, Secretary, Treasurer, and Chairman of Council at the Association's Annual Meeting, and AMA Delegates and Alternates at AMA meetings for expenses incurred, be reconsidered and that a specific sum be allocated that is in keeping with the Association's finances." The motion was seconded and carried by a unanimous vote.

Dr. Tanner read a report from Dr. C. T. Weston, Chairman of the SCMA Permanent Home Committee concerning activities of his committee. Dr. Weston stated that a full report would be ready for the January 12th meeting. He also pointed out that the Real Estate firm of Keenan and Kittrell of Columbia has been employed to lease the office space when the building is completed.

Dr. Tanner stated that he would ask Council to select the AMA Trustee that will be invited to attend the S.C.M.A. Annual Meeting.

Dr. Tanner also stated that he would ask Mr. H. H. Macaulay to appear before Council at its next meeting to familiarize Councilmen with the Student American Medical Association's Manpower Project. Mr. Macaulay is the Project Director for the Program.

Dr. Tanner read excerpts from a letter he received from the S. C. Council on Human Relations in Columbia. In the letter he was requested to grant an interview with legal counsel of the Council on Human Relations concerning his views as a practicing physician on the Drug Formulary used by the S. C. Department of Social Services (DSS). At the present time, Dr. Tanner pointed out, the DSS is the subject of a class action suit by the Human Relations Council to make the formulary open to all classifications of drugs. The



S.C.M.A. House of Delegates approved of a resolution last year for the DSS to open its formulary.

Dr. Tanner related that he and Mr. Pugh had met with Dr. Archie Ellis, Director, and Mr. Robert Floyd, Assistant Director of DSS to discuss the Medical Association's role in appointing members to the Department's Drug Advisory Committee. In the recent past, the Medical Association had made such appointments but the committee was called on to do little and had more or less disbanded. Dr. Ellis pointed out that this whole area was under reorganization and that he was very much interested in getting input from organized medicine. He assured Dr. Tanner that communications would be much improved in the future and requested that the Association

again submit nominations for this committee. Dr. Tanner told Dr. Ellis he would bring this up before Council at its next meeting. While there, Dr. Tanner explored the possibilities of the DSS utilizing the services of the S. C. Foundation for Medical Care. Dr. Ellis was most receptive to the idea and instructed Mr. Floyd to work with Mr. Pugh in setting up a future meeting to discuss areas of cooperation.

Mr. Pugh was asked to work with Mr. Floyd in this regard.

There being no further business, the meeting was adjourned at 5:00 p.m.

Respectfully submitted by:

Richard G. Pugh, Assistant Executive

Secretary

S. C. Medical Association

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## SOUTH CAROLINA FOUNDATION FOR MEDICAL CARE EXECUTIVE COMMITTEE MINUTES

December 21, 1972

Dr. John D. Gilland called the meeting to order this date in the office of Dr. Waitus Tanner. In attendance in addition to Dr. Gilland and Dr. Tanner were Dr. Harold Hope, Dr. Strother Pope, Mr. M. L. Meadors, and Mr. Richard Pugh. Dr. Michael Patton, Chairman of the S.C.M.A. Peer Review Committee, was also present.

After Dr. Gilland's opening comments and an up-date on where the Foundation stood relative to the grant applications pending with the Regional Medical Program, Mr. Joe Sullivan, President of the S. C. Blue Cross - Blue Shield Corp., was invited to speak.

After being briefed on where the Foundation stood at this point, Mr. Sullivan was asked to give his views on what possible areas of cooperation might be possible between the two groups. Mr. Sullivan outlined what the passage of HR-1 (now called Public Law 92-603) meant to Foundations. He stated that Professional Standards Review Organizations (PSRO) were called for and were to be in operation by 1974. Foundations, but not Medical Associations, qualify to be PSRO agencies.

If the Foundation wants to become involved in CLAIMS REVIEW, then this will conflict with the requirements of the PSRO and with the operations of the Blues. Mr. Sullivan stated that there are many areas in which the Foundation and the Blues can work together such as peer review, identification of trouble spots, setting up of norms of medical care, lengths of hospital stay, necessity, etc., but if a Foundation became involved in underwriting, risk sharing, or reviewing claims that are now the prerogative of BC-BS, then this might jeopardize a working relationship between not only the Foundation and the Blues, but also with the federal government.

In closing, Mr. Sullivan restated that a high level of cooperation is possible and welcomed. He offered technical assistance and computer time in setting up Foundation mechanisms. He stated that things are moving very fast and suggested that ongoing lines of communications be continued and expanded.

Mr. Jack Henley, Mr. Robert Griffith, and Dr. Malcolm Dantzler, officers of the S. C. Health Maintenance Organization Project, were invited in to discuss activities of this group. From his visits and interviews with

physicians and citizens throughout the state, Mr. Henley stated his group felt that the state's population wanted a change in the way health care is delivered, the accessibility of health care, and costs. He stated that the HMO could work within the present set-up with some modifications, or it could go out and hire physicians to work for the Organization. The first method was the more acceptable. The statement was made that Medicine is going to be subjected to increasing controls in the future and that organized medicine can be the group that controls itself.

There was much discussion concerning how the Foundation can work with the HMO, how quality and quantity of medical care will be improved, and areas of cooperation. Mr. Henley pointed out that an HMO is not a short term solution to all the problems relating to health in South Carolina. It represents a beginning . . . a start of a new approach.

The topic of the discussion turned to the probability of 'Risk Sharing' by the members of the Foundation. Mr. Meadors suggested that at this time, this possibility would be only marginally acceptable and that this might be a potentially irreconcilable point.

Dr. Gilland thanked the members of the Project and assured them that lines of communications would be maintained.

Dr. Donald Robinson of the South Carolina Regional Medical Program, who was standing in for Dr. Vince Moseley, was invited in to address the committee. He gave a brief outline of the recent cuts in the budget for the overall RMP National Program and that these cuts were reflected in South Carolina. The original developmental grant for \$10,500 was extended for another \$1,500, but that a subsequent request for \$15,000 continuation for the developmental phase would have to be re-evaluated. At the present time, the Regional Advisory Group could consider a request for no more than \$5,000 at its February 4, 1973, meeting.

Dr. Robinson would like to begin working with Mr. Meadors and Mr. Pugh right away on a new grant for August-September, 1973. For this he would need an expanded scope of work by the middle of January. The execu-

tive committee agreed to this and thanked Dr. Robinson for his efforts in behalf of the Foundation.

Mr. Meadors was asked to relate his ideas gathered from a recent trip to Chicago on Foundation business. He stated that in light of the passage of the PSRO amendment to HR-1, the Foundation should take a new look at its decision to employ UNIMED SERVICES to assist in setting up an operational Foundation in South Carolina. He suggested that the possibility existed that the Foundation could become the PSRO agency in South Carolina and therefore would have a different approach to solving the health care problems of the state. With this information and with much debate, Dr. Gilland suggested that consideration should be given for re-evaluating the decision to hire UNIMED SERVICES. Mr. Meadors further suggested that the S. C. Foundation for Medical Care make application to the Federal Government to become the Professional Standards Review Organization for South Carolina.

Dr. Tanner made the following motion that was seconded and carried by a unanimous vote:

"That the Executive Committee of the South Carolina Foundation for Medical Care recommend to its Board of Directors that the Foundation establish itself as the Professional Standards Review Organization (PSRO) for South Carolina; that this organization not involve itself in Claims Review; that the Foundation not become any more involved with the State Board of Health's Health Maintenance Organization project except to keep lines of communications open; that continued lines of communications be maintained with the Blue Cross, Blue Shield Corp. and other carriers; and that any contractual agreements with UNIMED SERVICES at this time be held in abeyance."

There being no further business, the meeting was adjourned at 3:45 p.m.

Respectfully submitted by:  
Richard G. Pugh, Assistant Executive  
Secretary  
S. C. Foundation for Medical Care

## MEETING OF THE HOUSE OF DELEGATES AMA CLINICAL CONVENTION—CINCINNATI, OHIO

November 26-29, 1972

John C. Hawk, Jr., M. D., Delegate

It was a quiet convention, a relatively harmonious one, almost a subdued one. There were no demonstrations, no particularly stormy sessions, no shocking headlines in the press, no overt bitterness between competing factions. The one issue which might have precipitated a real controversy, the AMA's decisions as to the PSRO program—whether to jump in and participate vigorously in its implementation, or to condemn it (as the AMA has in the past, prior to passage of Public Law 92-603 (H.R.1), signed October 30, 1972) and to ignore it like the plague it may easily become—was predetermined to a great extent when a Conference on PSRO was hastily planned for Saturday, November 25, the day before the convention actually began. Previous commitments prevented my attending this Conference, but those who did attend reported that it was well-stocked with PSRO advocates, even though one high HEW official (a physician) scheduled to appear, did not "show."

The Board of Trustees and the Council on Medical Service presented a report (Report Z) which first recalled some of the objections the AMA had raised against PSRO's but then recommended that the AMA "should provide a dominant role of leadership in the implementation of the PSRO program to insure that the best interests of the public and the profession are preserved." They advised further that an "Advisory Committee on Professional Standards Review" be established and set forth specific responsibilities and duties for such a committee.

At the opening meeting of the House, the Illinois delegation brought in a "late" resolution entitled "Development of Professional Standards Review Organizations", requesting even further action by the Board of Trustees to aid state and local societies to develop

PSRO's. Initially, this resolution failed to get the necessary two-thirds vote for acceptance as business of the House, but was accepted after it was pointed out that the lateness of the resolution was due to the fact that H. R. 1 (which provides for PSRO) had not been passed until the end of October.

At the Reference Committee A hearings on Monday this topic came up late in the day, and therefore there was less than the expected amount of discussion about it. One strong voice against PSRO was that of Dr. Jack Schreiber of Ohio who said "I would hope for the future of this organization (AMA) that we do not become agents of the federal government", and added "It seems to me we are taking the first step toward the regimentation of the profession through the PSRO, if not in itself, in what it will lead to. You cannot participate with the federal government and maintain freedom to practice medicine." He further commented on the fact that members of the House of Delegates were "falling all over ourselves" to "stand in line to implement this program that a month ago, before it was signed into law, we said was unworkable and dangerous."

Another articulate speaker was Dr. Joseph Boyle of California, who asked the Committee to "recognize that it (PSRO law) would impose upon all of medicine a single, monolithic, bureaucratic, regulatory body." He recommended that the AMA limit its participation to an advisory role to counsel HEW "as to how the imposition of certain regulations may interfere with the practice of medicine and impede our ability to provide quality care." He also suggested that the AMA assist medical societies in establishing peer review programs that would work so effectively that HEW would of necessity be forced to accept them as satisfying the requirements



of the PSRO law. He put it rather eloquently when he said:

"It is my opinion that now is not the time to conclude or accept that the profession must dance to a jig which is being composed in the Department of Health, Education and Welfare, but rather recognize that we have ample time to score and choreograph and sell our own program. We have an opportunity now to develop a program of our own choosing, to police ourselves, and provide assistance to others who may need help in identifying what is proper policing of the profession, and proper evaluation of quality of care and not assume that we can assign this responsibility to a governmental agency comparable to that which has demonstrated that it cannot even run the post office."

The Reference Committee report, which came before the House on the last day of the meeting, recommended adoption of Report Z with relatively minor modifications. Dr. Thomas Parker, senior delegate from South Carolina, then gave a very well-reasoned statement to the House, opposing the "rushing in" of the AMA to implement a program to which we had found many objections and which we had opposed heartily before H. R. 1 was passed. He concluded with an apt quotation from George Washington, who, at the time the United States Constitution was being drafted, said:

"If, to please the people, we offer what we ourselves disapprove, how can we afterward defend our work? Let's raise a standard to which the wise and honest can repair; the event is in the hands of God."

He then moved that the matter be referred back to the Board of Trustees for further study. This motion failed by an overwhelming vote. It was interesting, however, that a number of delegates who apparently voted against referral nevertheless told Tom later that they really agreed with him.

In the subsequent discussion of the Reference Committee's report, four additional

amendments were accepted by the House, representing added instructions to the newly formed Advisory Committee on Professional Standards Review. The last two of these were probably the most important:

That this committee and other AMA councils and committees monitor the effect of PSRO on the quality of medical care and report their findings to each future meeting of this House of Delegates. To reaffirm that the AMA be a strong advocate in support of the medical profession whenever regulations or administrative policy interfere with the practice of medicine.

The House also adopted the recommendation of the Reference Committee approving certain specifications for the development of "norms" for care, diagnosis and treatment, as presented in a resolution from the Section Council on Internal Medicine.

#### **INTERNS AND RESIDENTS**

Great interest was also shown in the question of participation of Intern and Resident (I-R) members in Councils of the House of Delegates. It was voted that the Council on Long-Range Planning and Development be expanded to include one I-R member of the AMA as a member of the Council, to be appointed by the Speaker of the House from among the I-R members of the AMA for a term not to exceed three years, provided the I-R member remains in an improved training program during the term. This was passed on Tuesday, so that the Council on Constitution and By-laws could prepare appropriate by-law amendments which were voted upon on Wednesday, in order to make this matter final at this meeting.

However, in regard to membership of I-R representatives on other councils, particularly the Council on Medical Education and the Council on Medical Service, the final vote was to refer this matter back to the Council on Constitution and By-laws, to report back at the 1973 Annual Meeting, with specific recommendations for action at that time. This final action came after a substitute motion, written by Dr. Eugene S. Ograd, delegate from the I-R Section, (but actually introduced

by Dr. Joseph Boyle of California), which would have added an intern or resident to the CME and CMS, with by-laws to be voted upon at the 1973 annual meeting, failed to be adopted. Unfortunately, Dr. Ograd spoke about this matter at great length and there were many of us who felt that a quicker vote would have brought favorable action. Dr. John Rumsey, Chairman of the Council on Medical Service, extended an invitation for an I-R member to sit with his council (non-voting) until the matter is finally decided. It was certainly the sense of the House that I-R participation is desirable but there was some concern about the haste in drawing up the specific method of singling them out for membership on these councils.

### **TERMS OF TRUSTEES**

At the June 1972 annual meeting, the House voted to conduct a preferential ballot at the November meeting, with reference to the term of office and the number of terms of members of the Board of Trustees. After two ballots had been taken, the following results were obtained: A total of 228 votes were cast as follows: 89 votes for three-year term, maximum of three terms, as at present; 128 votes for three-year term, maximum of two terms; 14 votes for four-year term, maximum of two terms; 6 votes for six-year term, maximum of one term.

The Reference Committee recommended simply that the results of this preferential ballot be filed. However, this did not satisfy the delegates, who voted to refer the results of this preferential ballot to the Council on Constitution and By-laws, for preparation of appropriate amendments which will again require a vote at the June 1973 meeting before final passage.

### **FISCAL RESTRAINT**

All members were already aware of the efforts of the Board of Trustees to exercise fiscal restraint and re-order priorities, including major changes in the councils and committees of the Board of Trustees. These had been widely publicized in an AMERICAN MEDICAL NEWS story of October 30 and included:

Reducing the size of councils and committees to seven and five mem-

bers, respectively (former sizes ranged from five to seventeen; reduction to be achieved by attrition). Reducing the maximum tenure of service to seven and five years respectively (formerly ten years for both).

Terminating four councils and six committees involving ninety-five members.

This information came to the House in the Board of Trustees Report A, which was approved after some debate. There was specific concern about the termination of the Council on Drugs and this was the matter of a separate resolution from Louisiana. The substitute resolution finally adopted was as follows: *Resolved*, That the House of Delegates recommend that the Board of Trustees continue to utilize all appropriate association resources and methods indicated, to the point of establishing a committee, if necessary, to delineate clearly the independent AMA policy on drugs and drug therapy.

Related to the matter of fiscal restraint was the passage of the following resolution (substitute for resolutions 37 and 38):

*Resolved*, That all reports to the House of Delegates from the Board of Trustees, Councils and Committees and all resolutions introduced in the House of Delegates shall include a fiscal note made by the Board, Council, or Committee, or sponsor of the resolution, and that such fiscal note shall set forth the estimated cost, if any, of such policy, program or action proposed by such report or resolution; and be it further

*Resolved*, That no report of resolution requiring financing may be considered by this House without the attachment of such fiscal note.

### **PRESIDENT'S ADDRESS**

The address of President C. A. Hoffman early in the Sunday afternoon program took a most unique form, a videoscope presentation of an interview with him including filmed sequences from his five-week study of health care systems in Great Britain, the Soviet Union, Sweden, and West Germany. There were on-the-scene interviews with health workers and others in each of these countries,

*"The history of science, and in particular the history of medicine... is... the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."*

*—George Sarton, from "The History of Medicine Versus the History of Art"*

**Are combination drug  
products useful in treatment  
involving concomitant use  
of two or more drugs?**

**Opinion**

**Results of a questionnaire to  
7,000 physicians:**

**62.9%**

**Believe combination drug  
products are useful.**

**13.8%**

**Do not believe combination drug  
products are useful.**



# Are combination drug products useful in treatment involving concomitant use of two or more drugs

## Opinion & Dialogue

### Doctor of Medicine

Louis Lasagna, M.D.  
Professor and Chairman  
Department of  
Pharmacology & Toxicology  
University of Rochester  
School of Medicine  
and Dentistry



Obviously, many drugs are given concomitantly. Whether it makes sense to combine medications in one preparation, be it capsule, tablet, or liquid, is a question that can be answered only by examining the advantages and disadvantages in the individual case.

Among the advantages is, first of all, convenience. The more medications that are taken concurrently and the more complicated the directions, the less likely the patient is to take medications accurately. From the standpoint of convenience and accuracy, and economy as well, you can make an important case for putting medications together in one preparation, as long as they are compatible.

By the same token, when you prescribe a properly tested and rational combination, you should have less worry about pharmaceutical or pharmacological compatibility — and about reasonable dosage ratios as well. Compatibility of the formulation should be demonstrated in the laboratory and clinic before the product is available for prescription—which is more than can usually be said for

the physician's own spontaneous creations. And, the dosage ratios employed in rational precompounded combinations are designed to meet the needs of substantial numbers of "typical" patients.

There is no doubt that many "atypical" patients are to be found, and for them the prefabricated combination must be rejected. But that hardly argues for eliminating rational combinations from the market. Think, for example, of the problems that would arise if the components of widely accepted combinations, like the oral contraceptives and the diuretic-antihypertensives, always had to be prescribed, purchased and ingested separately.

One disadvantage that comes to mind is some doctors' unawareness of the ingredients a given combination contains. For example, a doctor might know that a patient is allergic to aspirin but forget that a certain analgesic mixture, which he knows only by its trade name, contains aspirin. His prescription, then, causes considerable discomfort, to say the least. This problem is a function of physician education, rather than of combination therapy as such. Improving doctors' knowledge about all medicaments they prescribe is a problem that deserves tackling on its own.

Another accusation leveled at combination drugs is that they encourage sloppiness of diagnosis and treatment. In many cases, however, a combination may prove to be the most effective choice. A good ex-

ample of the usefulness of combinations appears in a recent article in the *Journal of Chronic Diseases* on the efficacy and side effects of an antihypertensive containing three ingredients, in which the track records of the combination drug and the individual ingredients were compared. Interestingly enough, whether the drugs were given individually or together, incidence and severity of side effects were the same. But blood pressure control was invariably better when the drugs were taken in one combination tablet than when they were taken separately (in "titratable" dosage) or in two or three different tablets.

Deciding which combinations constitute rational therapy obviously leads to a discussion of who is to determine which should be used and which should not. Realistically, I think combinations should be evaluated somewhat differently if they are old and established or new and untried.

In today's regulatory atmosphere, there is no possibility of a new combination being put on the market without a substantial amount of acceptable evidence in the form of controlled trials that show it to be safe and efficacious. On the other hand, I believe a different set of standards should apply to combination preparations that have been around for a long time. In other words, physician acceptance over a long period should be given some weight as evidence of the efficacy and safety of these drugs.

The FDA, however, does not seem to share this attitude. It often requires, for these older products, controlled trials that will monopolize the time of already overtired investiga-

tors and cost a great deal of money. I wish we could agree on a "grandfather clause" approach to preparations that have been in use for a number of years and that have an apparent satisfactory track record.

For example, I think some of the antibiotic combinations that were taken off the market by the FDA performed quite well. I am thinking particularly of penicillin-streptomycin combinations that patients—especially surgical patients—were given in one injection. This made for less discomfort for the patient, less demand on nurses' time, and fewer opportunities for dosing errors. To take such preparation off the market doesn't seem to be good medicine, unless actual usage showed a great deal of harm from the injection (rather than the proper use) of the combination.

The point that should be emphasized is that there are both rational and irrational combinations. The real question is, who should determine which is which. Obviously, the FDA must play a major role in making this determination. In fact, I don't think it can avoid taking the ultimate responsibility, but it should enlist the help of outside physicians and experts in assessing the evidence and in making the ultimate decision.

# Maker of Medicine

V. Clarke Wescoe, M.D.  
President  
Winthrop Laboratories



If two medications are used effectively to treat a certain condition, and it is known that they are compatible, it clearly is useful and convenient to provide them in one dosage form. It would make no sense, in fact, to insist they always be described separately. To avoid the appearance of pedantry, the "expert" decries the combination because it is a fixed dosage form. When the "expert" evokes the concept of fixed dosage form he obscures the fact that single-ingredient pharmaceutical preparations are also fixed dosage forms. By a singular semantic exercise he imparts a pejorative meaning to the term "fixed dose" only when he uses it with respect to combinations. What is ignored is the simple fact that only in the best of circumstances does any physician attempt to titrate an exact therapeutic response in his patient. It is quite possible that some aches and pains will respond to 500 mg. of aspirin yet that fact does not militate against the usual dose being 650 mg. The other semantic ploy often called into play is to describe a combination product as rational or irrational.

Take antibiotic mixtures, the source of much of the criticism generated against

combinations generally. Obviously, no one should be exposed willy-nilly to the potential side effects of two or three antibiotics when only one is needed. At the same time there are cases where it is prudent to prescribe more than one. The clinician is the judge in these circumstances, as he should be.

There is no clear definition of the word rational. Most persons, I suppose, would find it synonymous with reasonable, but in many circumstances it may best be defined as the opinion of those in power at the moment.

Other factors govern combination therapy, not the least of which has been its broad use by practicing physicians anxious to achieve convenience in prescribing, to reduce medication error, and to save money for their patients. Combinations clearly have met the test on all three counts.

I have been impressed by studies showing that the rate of error climbs markedly with the number of medications to be taken, even with sophisticated patients. When medically justified, therefore, this factor alone supports the logic of combination therapy.

The cost argument for combinations appears to be irrefutable. In 1971, R. A. Gosselin studied the 71 combination products (excluding oral contraceptives) among the 200 most prescribed drugs. The study found that if all 71 products were discontinued, and if each ingredient in these combinations were prescribed separately, the price of medicines to patients would jump by \$443.2 million on a national basis! At a time when the cost of medical care is under so much fire, it would be nonsensical to boost costs without clearly irre-

futable medical reasons.

The part played by government on this question, of course, is fundamental. The FDA should play a role in determining which combinations are reasonable. That role, as defined by law and regulation, is to ensure that any medication on the market is safe and effective in line with its label claims. Certainly combinations are entitled to as much consideration as single entities—neither more nor less. So long as the addition of one drug to another does not make either less safe, or less effective, so long as they are compatible in a formulation, we have a reasonable product. It makes no sense to recommend the use of two products for certain conditions and to deny their being combined in a single form. An unhappy side effect of the problem concerns the efficacy panel discussions of many products submitted for review. The term "effective, but" has been freely interpreted to mean "ineffective" in toto, regardless of the merit of the individual drugs. This interpretation has placed numerous useful combination products in needless jeopardy.

In reading the actual reports of the review panels, it seems clear that some of the ratings were based less on scientific research and clinical observation than on the "informed" opinions of the panelists. These "informed" opinions were accepted at face value, while

the "informed" opinions of others who had used the products were rejected. All of this put combination products into a sort of scientific never-never land.

It should be kept in mind by all, government as well as others involved in our health care system, that advances in therapy are seldom made in leaps and bounds but rather by small painstaking steps—and that some of these steps have resulted from research in combination drugs as well as with single entities. Given the near-infinite biologic variation in patient response, this is hardly surprising to clinicians. It should not be to regulatory agencies either.

In the end, the practicing physician is in the best position to decide if a particular combination makes sense. Such a decision should not be made exclusively by those whose responsibility for continuing clinical care is limited. Clinicians are the best judges of efficacy because the ultimate proof of any product's effectiveness is acceptance by physicians who have observed its actions in patients over time. The corollary statement may be made about over-the-counter medicines, which would not long survive if they failed to afford the relief the user anticipates. That the antihistamine in a "cold" remedy may not *always* be necessary is no reason to proscrib the combination generally.

## Opinion & Dialogue

What is your opinion, doctor?

We would welcome your comments.



The Pharmaceutical Manufacturers Association  
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## MINOCIN® made the difference in just eight days.\*

### Clinical Data:

**Patient:** 47-year-old male.

**Diagnosis:** Severe pyoderma, left hand.

**Culture:** *Staphylococcus aureus*, coagulase positive and sensitive to MINOCIN.

**Temperature:** 102° F

**Therapy:** MINOCIN Minocycline HCl Capsules, 100 mg: 200 mg *stat*, 100 mg every 12 hours. Medication began 9/7/71. By fourth day, temperature was normal and pustular lesions considerably improved. Last dose taken 9/14/71.

**Concomitant therapy:** None.†



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**MINOCYCLINE HCl**

Capsules, 100 mg: 2 *stat*, 1 q 12 h.

**Indications:** For the treatment of susceptible infections; e.g., *E. coli*, *D. pneumoniae*. For full list of approved indications consult labeling.

**Contraindications:** Hypersensitivity to any tetracycline.

**Warnings:** The use of tetracyclines during tooth development (last half of pregnancy, infancy and childhood to the age of 8 years) may cause permanent discoloration of the teeth (yellow-gray-brown). This is more common during long-term use but has been observed following repeated short-term courses. Enamel hypoplasia has also been reported. Tetracyclines, therefore, should not be used in this age group unless other drugs are not likely to be effective or are contraindicated. In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, use lower total doses, and, in prolonged therapy, determine serum levels. Photosensitivity manifested by an exaggerated sunburn reaction has also been observed in some individuals taking tetracyclines. Advise patients apt to be exposed to direct sunlight or ultraviolet light that such reaction can occur, and discontinue treatment at first evidence of skin erythema. Studies to date indicate that photosensitivity does not occur with MINOCIN Minocycline HCl. In patients with significantly impaired renal function, the antianabolic action of tetracycline may cause an increase in BUN, leading to azotemia, hyperphosphatemia, and acidosis. CNS side effects (lightheadedness, dizziness, vertigo) have been reported, may disappear during therapy, and always disappear rapidly when drug is discontinued. Caution patients who experience these symptoms about driving vehicles or using hazardous machinery while taking this drug.

**Pregnancy:** In animal studies, tetracyclines cross the placenta, are found in fetal tissues, and can have toxic effects on the developing fetus (often related to retardation of skeletal development). Embryotoxicity has been noted in animals treated early in pregnancy. Safety of use during human pregnancy has not been established. **Newborns, infants and children:** All tetracyclines form a stable calcium complex in any bone-forming tissue. Prematures, given oral doses of 25 mg./kg. every 6 hours, demonstrated a decrease

in fibula growth rate, reversible when drug was discontinued. Tetracyclines are present in the milk of lactating women who are taking a drug of this class.

**Precautions:** Use may result in overgrowth of nonsusceptible organisms, including fungi. If superinfection occurs, institute appropriate therapy. In venereal diseases when coexistent syphilis is suspected, darkfield examination should be done before treatment is started and blood serology repeated monthly for at least four months. Because tetracyclines have been shown to depress plasma prothrombin activity, patients on anticoagulant therapy may require downward adjustment of such dosage. Test for organ system dysfunction (e.g., renal, hepatic and hemopoietic) in long-term use. Treat all Group A beta hemolytic streptococcal infections for at least 10 days. Avoid giving tetracycline in conjunction with penicillin.

**Adverse Reaction:** GI: (with both oral and parenteral use): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in anogenital region. **Skin:** maculopapular and erythematous rashes. Exfoliative dermatitis (uncommon). Photosensitivity is discussed above ("Warnings"). **Renal toxicity:** rise in BUN, dose-related (see "Warnings"). **Hypersensitivity reactions:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus. In young infants, bulging fontanels have been reported following full therapeutic dosage, disappearing rapidly when drug was discontinued. **Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia. **CNS:** (see "Warnings.") When given in high doses, tetracyclines may produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

**NOTE: Concomitant therapy:** Antacids containing aluminum, calcium, or magnesium impair absorption; do not give to patients taking oral minocycline. Studies to date indicate that absorption of MINOCIN is not notably influenced by foods and dairy products.

\*Indicated in infections due to susceptible organisms. Culture and sensitivity testing recommended. Tetracyclines are not the drugs of choice in the treatment of any staphylococcal infection. †Case Report, Clinical Investigation Department, Lederle Laboratories.



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all put together with a fair degree of continuity. This videoscope will presumably be made available for showing to medical and other audiences country-wide where desired. Dr. Hoffman then emphasized that "the people of the United States enjoy the highest quality of medical care to be found anywhere in the world." He noted two major problems in the U. S., however:

Maldistribution or shortages of physicians and other health care personnel which limit access to medical care for some citizens.

Deficiencies in insurance coverage for catastrophic illness.

In regard to the problem of "maldistribution" he urged consideration of a plan to require certain physicians to practice in needy localities. The plan would trade a government-subsidized medical education for three or four years of practice in a medically-deprived community. As outlined by Dr. Hoffman, the practice requirement would be written into an "unbreakable contract" and would be enforced through a temporary license specifying the indebted physician's place of practice. He elaborated on this suggestion, and also urged that catastrophic coverage, based on a broad comprehensive program of health-care financing, should be one of the major goals of the medical profession. His address was discussed at length at the Reference Committee and was subsequently referred by the House to the Council on Medical Service for further study.

#### **AWARDS AND CITATIONS**

Dr. George H. Whipple, a winner of the Nobel Prize in medicine, was named from among three nominees to receive the 1972 AMA Distinguished Service Award. Dr. Whipple, now 94, founded the University of Rochester School of Dentistry in 1921, as one of the first of the strong non-profit medical schools, and remained Dean of the institution for many years. Entertainer Bob Hope was given the Layman's Citation for Distinguished Service, in particular for his contributions to the Eisenhower Medical Center in Palm Springs, California, and to numerous hospitals, medical research foundations, and national health fund drives. Hope's gifts to the Eisenhower Medical Center currently

total 6.5 million dollars.

Rep. Tim Lee Carter (R-Ky), a general practitioner who has represented Kentucky's fifth district in the House since 1964, and who was returned to congress in the recent general election by a solid margin was presented a plaque from the AMA for his "wise and able counsel in shaping programs to improve the nation's health."

#### **LONG-RANGE PLANNING HEARINGS**

The Council on Long-Range Planning and Development held hearings for over five hours on Monday afternoon, concurrently with the last remaining reference committee in session. A number of physicians from widely-scattered areas of the country gave testimony. The best suggestions which I heard during the time I sat in on the Committee were those of Dr. Jack Schreiber of Canfield, Ohio. He emphasized that the private practitioners of medicine remain the biggest and most active segment of the AMA and that AMA efforts to preserve the private practice of medicine should be increased. He made seven specific recommendations:

- 1) Continued emphasis on providing high-quality medicine.
- 2) Re-ordering priorities to make preservation of private medicine the top goal of the AMA.
- 3) Streamlining the AMA structure by pruning entrenched, but unnecessary "little dynasties" within the organization.
- 4) Improving communications between the various segments of organized medicine and with the general membership.
- 5) Expanding the AMA's Speakers Bureau to tell medicine's story at some of the hundred or more conventions held daily in the U. S.
- 6) Elevating the AMA Committee on Private Practice to Council status.
- 7) Appointment of a full-time spokesman for medicine.

Numerous other suggestions were received, including proposals for direct election of members of three of the House's standing councils and clarifying the respective roles of the AMA president and Board Chairman.

## **SOUTH CAROLINA DELEGATION**

South Carolina's delegation, the largest within my memory, consisted of the following: Tom Parker and John Hawk, delegates; Tucker Weston and Harrison Peeples, alternate delegates; Edward F. Parker, President; Harold Hope, President-elect; Waitus Tanner, Chairman of Council; and Jack Meadors, Executive Secretary. For the first time, the state association provided the delegates with a suite so as to make available a sitting room of sufficient size for us to hold a caucus early each morning during the convention. We were thus able to discuss the issues, make plans for proper coverage of the reference committees, and decide those issues to which we should each speak at appropriate times. All present felt that we were able to work much more effectively because of these arrangements.

We enjoyed the company of Polly Weston, Lib Peeples, and Jenny Tanner, and voted unanimously to have Polly Weston continue as our "leader" for social events at future meetings.

The entertainment highlight of the meeting was a benefit concert for the AMA-ERF, featuring the Montgomery County Medical Society Glee Club of Dayton, Ohio. This consisted of twenty-four talented doctor-singers who presented a delightfully varied program. There were also two guest soloists, one the wife of one of the members.

## **ELECTIONS**

Elected to the Coordinating Council on Medical Education were the following:

Dr. Merrill O. Hines of New Orleans, to a one-year term.

Dr. Bernard J. Pisani of New York, to a two-year term.

Dr. Tom E. Nesbitt of Nashville, Tennessee, to a three-year term.

Dr. Nesbitt was also serving for the first time as Vice-Speaker of the House, and did an excellent job, together with Dr. Frank Walker, Atlanta, Speaker of the House.

## **OTHER ACTIONS IN BRIEF**

The House accepted for study and action fifty-four reports of the Board of Trustees and various councils and committees, and sixty-one resolutions. There were also several supplementary reports, speeches, etc., which

were accepted for discussion and action.

Among the specific actions taken by the House were the following:

..... Heard discussion for and against "Certificate of Need" legislation and directed the Council on Medical Service to continue to study and collect data on this legislation, and to make available such information to the states, including desirable and undesirable features, and also develop general guidelines for such legislation. Included was the specific statement: "Development of such general guidelines does not imply AMA approval of certificate of need at this time".

..... Adopted Board of Trustees Report B, giving detailed analysis and reply to criticisms of TODAY'S HEALTH, both as to editorial and advertising policies.

..... Discussed at some length, but then tabled a resolution proposing that all candidates for office in the AMA be requested to speak at a "Meet the Candidates" session of the House of Delegates, instead of, or possibly in addition to, the present method of acquainting delegates with candidates for office by utilization of breakfast caucuses (primarily large states).

..... Reaffirmed and reiterated the importance of Section VI of the Principles of Medical Ethics, which states: "A physician should not dispose of his services under terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause the deterioration of the quality of medical care". Also directed the AMA to "publicize the importance of this concept so that recognition will be given to the fact that the best interests of patients cannot be served under conditions destructive to the mutual trust and responsibility essential to the physician-patient relationship", and stated unequivocally that "the AMA position in regard to third-party payors, either private or government, shall safeguard this principle by affixing to it the very highest of priorities".

..... Heard and "filed" for future information detailed reports of the Board of Trustees and / or the Council on Medical



Service in regard to "Health Planning for Rural America", "Health Outreach," "Home Health Care", and "Free Clinics".

..... Reaffirmed the concern of the AMA for the poor, by directing that the CMS Progress Report on its "Committee on Health Care of the Poor" not only be filed but also be given wide dissemination through appropriate channels of communication.

..... Discussed at length, both in Reference Committee and on the floor of the House, problems related to physician representation on governing boards of hospitals, reaffirmed the past House policy (1970) urging that physicians be placed on hospital boards, and added the following additional statement:

*"Resolved*, That one of the best means of communication between a medical staff and governing board of a hospital is by having medical staff members on the governing board chosen from a list of physicians elected by the medical staff."

..... Adopted a California resolution urging increasing liaison between state and county associations and medical colleges in the individual states and urging that appropriate presentations on medico-socio-economic subjects and patterns of medical practice be given to students and staffs of the medical schools.

..... Referred to the Board of Trustees for further study the Certified Hospital Admission Program (CHAP) of the Sacramento County Medical Society.

..... Directed the AMA to urge that the Model Cities Program, at all levels, obtain "adequate continuing advice and assistance from practicing physicians in the planning, operation, and evaluation of health programs, and that such physician involvement at the local level be a requirement for Federal support of local programs."

..... Postponed (by tabling) any action by the AMA in regard to promotion of a National Cancer Registry, pending further study and action by the AMA Advisory Committee on Cancer.

..... Approved a detailed report by the Board of Trustees containing the statement

and recommendations of the Council of Mental Health, facing up to the important subject of physicians with psychiatric disorders, including alcoholism and drug dependence, and providing specific guidelines for dealing with such physicians.

..... Recognized the nearly epidemic proportions of current venereal disease outbreaks, encouraged support of VD control programs, and urged state associations to support enactment of statutes that permit physicians and co-workers legally to treat and search for venereal disease in minors, without the necessity of obtaining parental consent. Also directed the Board of Trustees to report at the next meeting about the nationwide incidence of venereal disease at that time, and to make any additional recommendations for control of the epidemic of venereal disease.

..... Took note of current controversies in regard to smallpox immunizations, encouraged the seeking of new methods of immunization against smallpox, and determined that physicians should continue to have the option of immunizing patients against smallpox, while observing any contraindications.

..... Endorsed the fluoridation of public water supplies as an effective method of reducing dental caries.

..... Accepted the Board of Trustees recommendation that AMA dues for Medical Student Membership be set at \$15.00 annually, defeating a motion that this be reduced to \$10.00.

..... Approved the recommendation of the Board of Trustees that a new specialty section of Plastic and Reconstructive Surgery be adopted.

..... Discussed at length the annual reporting of the implementation of adopted and referred resolutions, and directed that a "precise accounting of what has been accomplished by every resolution, other than By-law and Constitutional Amendments, be made available to the House of Delegates no later than two months prior to the next annual meeting following adoption and / or referral of each resolution", and further directed that when an adopted resolution



is to be considered by the Board or a Council the sponsoring person and / or organization be informed thereof and be invited to attend the hearing, at no expense to the AMA. Furthermore, states and / or specific authors of resolutions adopted or referred for action are to be specifically notified if the expressed intent of resolutions cannot be achieved by the following general session. Any adopted resolution is to become standing policy of the AMA, remaining in force until modified or rescinded by action of the House of Delegates.

.....Directed that the deans and faculties of American medical schools who are not members of AMA be strongly solicited to join the AMA and respective state medical society.

.....Turned down a request that minutes of all Board of Trustees meetings be distributed promptly and regularly to all delegates, but reaffirmed the policy that the meetings of the Board are open to members of the AMA by prior arrangement under reasonable circumstances, and that the minutes of the Board of Trustees are available for inspection.

.....Reaffirmed the principle that the quality of professional *medical* services can be evaluated only by physicians. Also reaffirmed the AMA's concern for public accountability, and the belief that public representatives have an essential role to play in the total *health* care review process.

.....Took note of the lack of success thus far on the part of the AMA to persuade the Social Security Administration to modify suitably its Explanation of Benefits Form for Medicare patients and referred the matter back to the Board of Trustees for further report at the 1973 Annual Meeting.

.....Turned down the Oklahoma delegation's resolution calling for a congressional investigation of the Medicare administration.

.....Referred to the Board of Trustees, for report back at the 1973 Annual Convention, an Oklahoma resolution recommending AMA support of an unchallenge-

able seven-day grace period for Medicare hospital stays, but strongly supported and adopted the remainder of the resolution, calling for a "statute of limitations of one year on all retrospective audits of the medical necessity for hospitalization", and also calling for the opportunity for appeal to the Bureau of Health Insurance by the patient, the hospital, or the attending physician, for all challenges of hospitalization, regardless of the amount of funds involved.

.....Discussed at length the claims practices of Aetna Life and Casualty Company, and referred the matter back to the Council on Medical Service to collect and accumulate data as presented by individual physicians and county and state societies, and determine whether or not the affirmations of Actna Life and Casualty representatives are in fact being carried out.

.....Turned down the Colorado delegation's resolution calling for a "Shopper's Guide for Health Insurance".

.....Approved and referred to the Board of Trustees for implementation a strong resolution (#34) from the California delegation, enunciating a number of principles considered to be essential to physician participation in any debate on national health insurance and urging that the AMA develop a program consistent with these principles.

.....Adopted a resolution that the AMA continue to support the pluralistic health care system and oppose the concept of Health Maintenance Organizations as the exclusive or major means of providing health care delivery.

.....Sent congratulatory messages to Elliott L. Richardson, outgoing Secretary, Department of Health, Education and Welfare, and Mr. Caspar W. Weinberger, whose appointment as the new Secretary of HEW was announced during the course of the meeting. The AMA expressed to Mr. Weinberger full support and assistance in carrying out his important assignment in the Department of Health, Education, and Welfare.

.....Accepted and filed the report of the Board of Trustees announcing that PRISM,

a new socioeconomic magazine, would be published by the AMA, beginning about April 1973. It is anticipated that PRISM will be designated as an AMA membership benefit. Some concern was expressed about the start-up cost of \$1,200,000 (as against an anticipated income of \$800,000 the first year) at a time of "fiscal restraint" in the AMA. It is anticipated that a break-even point will be approached during the second year.

## FINAL NOTE

Again, the official delegation of the SCMA reminds all members of the state association who may be attending future meetings of the AMA that they are cordially invited to meet the delegation, to participate in its caucuses, to assist in appearances before reference committees, and to join in its social activities.

---

## SMALLPOX IMMUNIZATION

Delegates from the South Carolina Medical Association to the Clinical Meeting of the American Medical Association (AMA) held in Cincinnati November 26-29, 1972, voted to support the Illinois Medical Association's resolution calling for the continued use of the smallpox immunization.

Dr. Thomas Parker of Greenville, senior representative on the four-man delegation representing South Carolina doctors, stated that this resolution was introduced at a time when there is much uncertainty surrounding the subject of smallpox immunization.

In brief, the resolution points out that there have been no reported cases of smallpox in the U. S. since 1949 due mainly to the almost universal immunization of the Nation's population.

The resolution took into account that reactions to the vaccine have been reported and

encouraged modern biological virologists to seek new methods of immunization that will produce fewer adverse reactions and a greater length of immunity.

Physicians, while continuing to be alert for contraindications, are encouraged to continue to immunize patients against smallpox, whether or not this procedure is required by the U. S. Public Health Service or other countries.

This resolution, approved by the AMA House of Delegates, also points out that "... continued freedom from smallpox epidemics can be achieved by having a continuously high percentage of the population protected against this virulent, highly contagious disease".

Richard G. Pugh  
S.C.M.A.

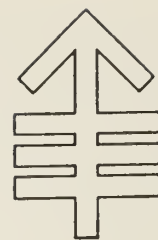
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## WOMAN'S AUXILIARY TO THE SOUTH CAROLINA MEDICAL ASSOCIATION

50th Annual Convention in Myrtle Beach, May 13-16.

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Surprises in store! Details next month.

# CANCER TOPICS



## PAPILLARY CARCINOMA OF THE THYROID

PAUL H. O'BRIEN, M.D., FACS\*

Papillary carcinoma of the thyroid is by far the most common histological variety of thyroid cancer. Cancers of this type are infrequently encountered and are very infrequently a cause of death. They have, however, served to generate as much intense clinical debate as any cancer I know of with the possible exception of breast cancer. Alleged "experts" express wide disparities of opinion on the subject. Opinions are often pronounced with great conviction and with considerable emotion but it is very difficult for the isolated single observer or small group to acquire an adequate experience with this cancer to authoritatively recommend a specific type of therapy or therapies.

The Mayo Clinic approached the papillary cancer of the thyroid in the late 40's and early 50's with a conservative approach. When the cancer was confined to only one lobe of the thyroid gland, only a lobectomy was performed. At Memorial Hospital, a very vigorous approach was taken in this clinical situation with resection of the entire thyroid gland. There never has been much debate about the papillary cancer of the thyroid that includes both lobes of the thyroid. Such a patient requires a total thyroidectomy. There has never really been much debate about the treatment of grossly involved lymph nodes in the neck in that they should be excised. It is generally agreed that such a block of metastatic nodes should be removed en bloc with related soft

tissue structures, excluding the carotid artery.

The major controversy occurs when the surgeon is confronted with cancer which is essentially in one lobe of the thyroid and the other lobe is grossly free of cancer when examined at operation. In this clinical dilemma, as pointed out by Dr. Frazell and Dr. Foote in 1955, "Jovian cries from on high or elsewhere ring out and the voice of emotion is heard throughout the temple of the thyroid."<sup>1</sup> Some seventeen years ago it became apparent to the group, to the Head and Neck Service at Memorial Sloan-Kettering Institute that possibly total thyroidectomy was too much surgery for a patient whose papillary carcinoma of the thyroid was confined to one lobe. They were very much aware that when the entire gland was removed in their hands, thirty per cent of the time microscopic foci were found in the opposite lobe. The significance of these microscopic foci became a source of intense debate. A policy of simply removing the grossly involved lobe and isthmus began in a certain number of patients in 1955 and a report was published in 1963 on 282 patients.<sup>2</sup> This, of course represents an enormous number of patients with cancer of the thyroid and was the combined series of some twelve attending men doing essentially nothing else but Head and Neck Oncology plus a very large ward service. The average number of admissions to the Head and Neck Service at Memorial Hospital during these years was some 2,500 patients annually, sixty per cent of which were at that time ward or clinic patients.

The interesting thing in 1963 with a minimal follow up period of five years was the

\*Professor of Surgery, Department of Surgery, Medical University of South Carolina, Charleston, South Carolina.

Director, Cancer Clinic, Medical University of South Carolina, Charleston, South Carolina.



recurrence rate of the patient who had only a lobectomy of 3.7 per cent in the opposite lobe. The crux of the clinical problem in defining how extensive a resection should be performed seems to come to the discrepancy between the much higher frequency of minute cancer found in their grossly normal opposite lobe and the incidence of clinical recurrence in the opposite lobe.

We have had Dr. Woolner from the Mayo Clinic review the Mayo experience for us at the Medical University within the past year, and within the past three months the Memorial group has updated their long term clinical studies on patients with papillary cancer of the thyroid. The clinical approach to papillary cancer of the thyroid grossly confined to one lobe at the Mayo Clinic and Memorial Hospital is now almost identical although one started off with what seemed a very conservative posture and the other a very vigorous, radical posture. In both groups, with a volume of patients which could never be accumulated by an isolated surgeon or a small group of surgeons, the incidence of recurrence in the remaining opposite grossly normal thyroid gland has been quite similar. The Memorial experience now has a 4.6 per cent of recurrence in the opposite lobe with a minimal follow up of fourteen years, and in the Mayo Clinic series there is a recurrence rate of 7 per cent. When such nodules recur, of course the patient then can undergo a lobectomy on the opposite side. The tissue planes have not been disturbed from previous surgery or previous partial transection. In the Memorial group, as in the Mayo group, when the papillary cancer of the thyroid has remained with-

in the capsule, such surgical treatments of the disease have permitted the patient to assume a normal life expectancy.<sup>3</sup>

The Memorial group historically became discouraged with total thyroidectomy in that the patients developed hypoparathyroidism of a permanent variety in 29 per cent of the patients undergoing the procedure. This, of course, is a very crippling disease for which even today there is no adequate medical therapy. Other surgeons reporting on total thyroidectomy have had a much smaller incidence of hypoparathyroidism. Total thyroidectomy in many hands leaves much to be desired as the thyroid capsule is transected to leave the posterior portion of the gland and subsequently spare parathyroid function.

The Pathologists at Memorial Hospital from Dr. Ewing, through Dr. Stewart, through Dr. Foote, have advised the surgeon to remove the thyroid gland in its entirety and not cut across it. Transection of the thyroid gland containing microscopic foci could accelerate an indolent process to an aggressive cancer.

It is, in conclusion, very difficult to imagine the need for extensive surgery on intracapsular papillary cancer of the thyroid to one lobe when a lobectomy will return the patient to a normal life expectancy. While optimistic about surgery, I am not sure yet that via surgical manipulation, we will be able to give any patient more than a normal life expectancy. I also find it satisfying that two strong institutions starting off with dramatically different postures in their quest for the best and safest methods of treating papillary thyroid cancer now find themselves congruent.

#### REFERENCES

1. Frazell, Edgar L. and Foote, Frank W.: Papillary cancer of the thyroid, a review of 25 years of experience. *Cancer*, Sept.-Oct. 895-922, 1958.
2. Tollefsen, H. R., Decosse, J. J.: Papillary carcinoma of thyroid: recurrence in the thyroid gland after initial surgical treatment, *Amer J Surg* 106:728, 1963.
3. Tollefsen, H. R.; Shah, J. P.; Huvos, A. G.: Papillary carcinoma of the thyroid; recurrence in the thyroid gland after initial surgical treatment, *Amer J Surg* 124:468-472, 1972.



## **SOUTH CAROLINA REGIONAL MEDICAL PROGRAM**

**VINCE MOSELEY, M.D.**  
Coordinator, South Carolina

### **SCRMP PROMOTES INTEREST IN PHYSICIAN'S ASSISTANTS**

Since MEDEX, a program that places former military medical corpsmen in civilian roles similar to the jobs they performed in the Service, came on the national scene some three years ago, the S. C. Regional Medical Program has played an active role in developing interest in this activity in the State.

SCRMP has worked to explore MEDEX and other type programs for physician's assistants, to stimulate interest by physicians and nurses in these programs, and, as requested by the Medical University of S. C. officials, to assist in data gathering for their staff.

Specifically, SCRMP provided the services of an active duty Navy master chief hospital corpsman, who assisted MUSC officials in the early planning stages of their present MEDEX program. Also, SCRMP has sponsored four seminars by ad hoc committees of the S. C. Medical Association and the S. C. Nurses Association, and a conference of 100 physicians and nurses in Columbia in 1971, all on the subject of physician's assistants.

In addition, SCRMP has assisted Spartanburg General Hospital in a feasibility study on the training of nurse clinicians as the physician's assistant in community health programs, such as those related to Model Cities and county health programs.

In view of SCRMP's activities in connection with the physician's assistants programs in the state, Dr. Vince Moseley, SCRMP coordinator, stated that he was extremely pleased to see the first group of 18 former military corpsmen enrolled at the Medical University of S. C. enter their preceptorship phase of training in mid-January 1973.

South Carolina communities aided by the new health practitioners include St. George, Marion, Beaufort, Elloree, Greenville, Latta, Darlington (two), John's Island, Chester and Charleston (County Health Department).

In addition, five communities outside the state will be the site of preceptor-physician training. These are Metter, Georgia; Luverne, Andalusia and Lester, Alabama; and Lake Village, Arkansas.

The MEDEX program is divided into two phases: (1) a three-month university training phase where heavy emphasis is placed upon pediatrics, geriatrics,

chronic disease, history taking and physical examination, and transition from the field of military medicine to the setting of civilian medical practice; and (2) a preceptorship phase.

The preceptorship phase takes nine months and must take place in the preceptor-physician's office, rather than in an academic setting. For the first few months the Medex will assist the local physician as he learns and applies primary medical-care skills under the physician's close supervision.

When the physician has developed enough confidence in the Medex, he can be used in a variety of ways: screening patients to be seen by the doctor, making screening house calls, taking emergency calls, assisting at surgery, applying and removing casts, performing laboratory work, taking histories, performing parts of physical examinations, or aiding in other tasks that do not require a physician's extensive training.

Dr. Cleve Hutson, director of the new program, said the MEDEX program reflects an effort to relieve physicians of minor but often time consuming tasks, to allow them more opportunity to perform functions for which they are uniquely qualified. It is hoped thereby to expand the delivery of primary health care in low physician to population areas.

The preceptor-physicians were selected from a large group from throughout the state requesting Medex assistance. Factors determining the physicians need for Medex included: (1) constant state of overwork; (2) unavailability of time for adequate family life and continuing education; (3) consideration of plans to leave rural practice.

The criteria for selection are: (1) willingness to innovate in the health manpower fields; (2) desire and ability to train non-physicians; (3) the willingness of the physician to employ the Medex upon completion of the Medex period of training.

The MEDEX program is a joint venture of the College of Allied Health Sciences and the Department of Family Practice of the College of Medicine at the Medical University. This program is being funded by the Bureau of Health Manpower Education, National Institutes of Health.

Charles R. Wyrosdick  
Director of Communications

## ABORTION

German medicine, not Hitler, began the process which reached its climax in the mass slaughter of "useless and unwanted people" under the Nazi regime, a prominent public health physician has asserted.

And American medicine, through its espousal of abortion philosophy, is now already far along the same road, he declared. It is a road which inevitably leads to mass extermination of whole segments of the population for social and economic reasons, with physicians becoming technician killers at the service of the state, he continued.

Writing in the current issue of *Child and Family* magazine, Dr. Herbert Ratner, Oak Park, Ill., public health director, said this is the real stake in today's hotly contested abortion controversy.

Terming abortion "the tip of the euthanasia iceberg," he predicted that unless American medicine returns to its role as guardian of human life in all its stages, the United States may well experience a blood bath dwarfing the Nazi holocaust. He added:

"One can envisage medicine, surgery and anesthesiology battling over eligibility and jockeying for control of a new specialty board—Exterminative Medicine—whose monetary rewards are now well demonstrated."

Just as today in America many prominent and esteemed members of the medical profession are in the forefront of the fight for easy abortion, so, long before Hitler, many prestigious German physicians—including numerous full university professors—were agitating for legalized elimination of "worthless" lives, Dr. Ratner said.

"Contrary to the general belief that only a few psychopathic physicians were involved in the German medical atrocities, many academically prominent and highly respected physicians were implicated. They were not Nazi puppets or incompetents but men of standing and experts in their field."

Dr. Ratner's carefully documented article serves as a commentary on a recent Massachusetts test case in which the court upheld the constitutionality of the state's traditional

abortion law prohibiting abortion except to save the life of the mother.

In addition to the commentary, the magazine reprints the text of the court's decision along with testimony of expert witnesses.

Analysing the testimony of pro-abortion witnesses, Dr. Ratner challenged it as substituting "calculated ambiguities and adroit labellings" for precise scientific statement and said:

"It is as if the goal were to confuse the Court about the biological facts in the hope that the Court could be fooled or intimidated and robbed of its commonsense by a chorus of witnesses harmonizing a previously agreed upon party-line."

He called the testimony of two prominent New York physicians, Drs. Robert Hall and Christopher Tietze, that the unborn child is only "potentially human," misleading and unscientific.

"It is misleading because it artificially separates one stage in the life of an individual—a stage that is part of the progressive sequence of stages leading to maturity—from all other stages.

Thus the fetus is arbitrarily singled out, labelled potential and robbed of the status it shares with actual human beings in all other stages of life.

"It is unscientific because it does not tell what the fetus is, only what it may become."

Dr. Ratner noted that while growth and development are continuous from the moment of conception onwards, for convenience, doctors use different terms to identify different stages of development—embryo, fetus, infant, child, pubescent, adolescent, adult.

"To apply the phrase, potential human being, to any one of these stages has no scientific meaning because, whatever the stage, it is a stage of a human being already in existence."

"To speak of the live fetus—the target of the abortionist—as a little blob of protoplasm is no more accurate than to speak of the live adult as a large blob of protoplasm."

"And to speak of feticide or infanticide as



different from homicide is equally inaccurate. Both are kinds of homicide which refer to the killing of human beings at different stages of individual life."

Dr. Ratner termed the testimony of another set of pro-abortion witnesses ever more "disquieting" because it denied that medicine must be based on scientific fact. They took the position that neither biology nor medicine can determine who is a human being.

The well-known biologist, Garrett Hardin, for instance, testified:

"It is society that defines what is human and some societies define it differently."

Noting that Hardin also testified that "abortion should be available to keep down taxes," Dr. Ratner pointed out that nowhere in his testimony did the biologist take issue either with Nazi Germany, a society which defined human in Aryan terms, or those other societies which formerly defined Blacks and Asians as subhuman.

The kind of testimony given by pro-abortion witnesses in the Massachusetts case is typical, Dr. Ratner said. It not only illustrates the tendency of the medical profession "to succumb to corruptive cultural influences. It also evidences the "manipulation and corruption of language" to obscure rather than to clarify reality. Thus, it has persuaded many—including judges and legislatures—to see abortion as valid, Dr. Ratner said.

Tracing the parallels between what happened in Germany and what is now occurring in the United States, the doctor said the downfall of German medicine started slowly as a propaganda by physicians for elimination of lives devoid of value, chiefly the incurably ill and gradually spread to include "the socially unproductive," then the ideologically unwanted and finally, all non-Germans. Dr. Ratner continued:

"What happened then to German medicine is happening now to American medicine. And we speak not only of the fetus. To permit feticide for social and other non-medical reasons—whether for convenience, economy, psychologic distress, 'overpopulation' or 'for the

good of the one to be killed'—is to introduce the principle of euthanasia.

And euthanasia in any form inexorably leads to the extermination of—to use the Nazi phrase—'useless eaters.'

"No imagination is necessary to realize that today American medicine is paralleling earlier stages in the decline and fall of German medicine.

"That abortion kills and that what are killed are human beings is unquestionable. That killing by American physicians is beginning to match the millions that were killed in Germany by German physicians is also a fact."

It is all the more ominous that this is being done with the blessing of such leading professional groups as the American College of Obstetrics and Gynecology and the American Medical Association, Dr. Ratner continues.

What it amounts to, he warned, is "the devastating corruption of medicine by the contemporary sociological mentality—a mentality which distorts reality to fit what one wants to believe or achieve."

Much of what is being achieved, is accomplished by means of such proabortion testimony as was given in the Massachusetts case, he said and added:

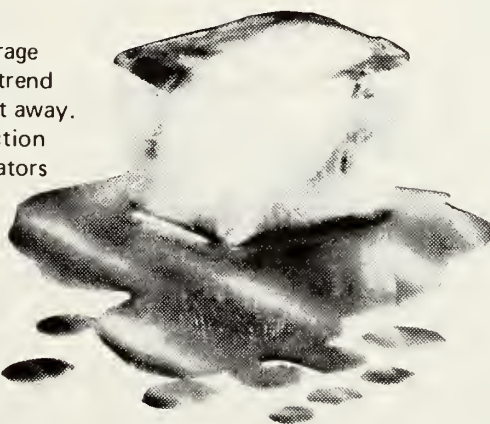
"When a lethal operation is rapidly becoming the most prevalent surgical operation in the United States, promising to surpass the totality of all surgical operations combined, it is not too harsh to apply to them (the expert witnesses) the observation of George Orwell of 1984 fame—'if thought corrupts language, language can also corrupt thought.'

"Nor is it too harsh to transfer his blunt conclusion about political language directly to contemporary medical language that it 'is designed to make lies sound truthful and murder respectable. . .'"

From *Child and Family Quarterly*, Herbert Ratner, M.D., 244 Wesley Ave., Oak Park, Ill. 60303

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EENT	Dr. Eugene Kern Professor of Surgery Mayo Clinic Rochester, Minn.
Vascular Diseases	Dr. William Foley Chairman, Department of Medicine Univ. of Nebraska Omaha, Nebraska
Metabolic Diseases	Dr. Joseph Calvin Shipp Chairman, Department of Medicine Univ. of Nebraska Omaha, Nebraska
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## PRESCRIBING INFORMATION

### Antiminth (pyrantel pamoate) Oral Suspension

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**Indications.** For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

**Warnings.** *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

**Precautions.** Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

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Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

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Registration for the meeting will be free of charge to Fellows of the College whose dues are paid to date, members of the ACS candidate group, and surgical residents. Non-Fellows, applicants for Fellowship and Fellows whose dues have not been paid, pay \$50. Non-Fellows in the Federal Service (full-time) pay \$30.

Housing and registration forms are available from the American College of Surgeons, 55 East Erie Street, Chicago, Illinois 60611.

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## on the road.

Problem drinkers can be deadly when they get behind the wheel. In fact, they are involved in almost 20,000 highway fatalities a year. And the number is growing. The only way to reverse this trend is to separate the driver from his drinking problem. *Before* he kills himself or anyone else. Because punitive measures alone have failed to slow this needless slaughter, we have to look elsewhere for help. Your office, for instance. Where you can counsel him against excessive drinking *and* driving. Or where you can refer him. Your knowledge and experience make you the community's first line of defense against this epidemic.

First aid for drunken drivers begins in your office.

Please send me background material on problem drinkers that: tells me what community organizations can do to help; gives me data on various alcohol levels in the blood; describes the latest developments in breath-testing methods.

For my patients, please send me information to supplement my counsel.

Name \_\_\_\_\_ M. D.

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Drunk Driver  
Dept. M.D.  
BOX 1969

Washington, D.C. 20013





# **“I needed an expert keypunch operator I got one.”**

**(Ralph D. Fragola, Data Processing Manager,  
Electric Boat Division, General Dynamics.)**



**A handicapped person is not  
a handicapped worker.**

**PAS**

PUBLIC ADVERTISING SYSTEM  
A DIVISION OF THE SCHOOL OF VISUAL ARTS

# Integument!

Our skin—the human integument—covers us, defines us, protects us. But skin is subject to cuts, burns, abrasions. And infections. Neosporin Ointment fights infection by providing broad antibacterial action against susceptible skin invaders. It contains antibiotics that are rarely used systemically, reducing the risk of sensitization.



**INDICATIONS:** *Therapeutically*, used as an adjunct to appropriate systemic therapy for topical infections, primary or secondary, due to susceptible organisms, as in:

- infected burns, skin grafts, surgical incisions, otitis externa
- primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia)
- secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis)
- traumatic lesions, inflamed or suppurating as a result of bacterial infection.

*Prophylactically*, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

**CONTRAINDICATIONS:** Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

**PRECAUTION:** As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Complete literature available on request from Professional Services Dept. PML.

## NEOSPORIN<sup>®</sup> Ointment

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Each gram contains: Aerosporin<sup>®</sup> brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q.s. In tubes of 1 oz. and ½ oz. and ⅓ oz. (approx.) foil packets.



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North Carolina 27709



# Librium® and (chlordiazepoxide HCl) concomitant use

Librium (chlordiazepoxide HCl) is used as adjunctive antianxiety therapy concomitantly with certain specific medications of other classes of drugs, such as cardiac glycosides, anti-hypertensive agents, diuretics, anticholinergics and antacids.

**Antianxiety effectiveness:** Demonstrated in a broad range of psychologic and physical dysfunctions; indicated when reassurance and counseling

are not enough and until, in the physician's judgment, anxiety has been reduced to tolerable appropriate levels.

**Effect on mental acuity:** Usually minimal on proper maintenance dosage.

**Safety:** An excellent clinical record. In general use, the most common side effects reported have been drowsiness, ataxia and confusion, particularly in the elderly and debilitated.

**in relief of clinically  
significant anxiety**

**Librium®**  
**(chlordiazepoxide HCl)**  
**5-mg, 10-mg, 25-mg capsules**  
**up to 100 mg daily in**  
**severe anxiety**

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debili-

tated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the

elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased or decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.



Roche Laboratories  
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Nutley, N.J. 07110

Francis & Taylorway Lib of Medicine  
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Boston  
Massachusetts 02115



# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

**APLASTIC CRISIS OF SICKLE CELL DISEASE  
BRONCHIAL DISRUPTION  
X-RAY FILMS OF THE MONTH**

**Woman's Auxiliary — Fiftieth Anniversary**

**Comprehensive Health Planning in South Carolina**

**VOLUME 69**

**MARCH, 1973**

**NUMBER**

## **Announcing . . .**

### **U-100 Iletin® (Insulin, Lilly)**

(100 units of Insulin per cc.)

This is a concentration suitable for most Insulin-dependent diabetics.

U-100 Iletin promises significant patient benefits from standardized, simplified, and convenient Insulin therapy. It is available in six formulations.

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Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counseling



and a few may need counseling  
*and* the psychotropic action of Valium® (diazepam).



Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect.

**Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

# Valium® (diazepam)

To help you manage excessive psychic tension

THE FRANCIS A. COUNTWAY  
LIBRARY OF MEDICINE  
BOSTON  
- 4 APR 1973



---

# Hunger Control VS. Weight Control

---



S. K. Fineberg, M.D.

Clinical Assistant Professor of Medicine,  
New York Medical College.  
Chief, Diabetes and Obesity-Diabetes Clinics,  
Metropolitan Hospital, N.Y.C.  
Director of Medicine,  
Prospect Hospital, Bronx, N.Y.

*The statements by Dr. Fineberg are  
intended as medical information, and do not  
involve endorsement of any product.*

Although effective appetite suppression is available, "...controlling hunger is not a simple solution to the complex problems of obesity."\*

Preludin can lessen hunger. But it should never be used as sole treatment in weight reduction. Fineberg states it well:

"The appropriate and proper use of anorexigenic drugs in an overall program of weight reduction is to relieve the acute symptoms which are invariably produced by a sharply lowered caloric intake."

"Their use should only be as part of an intensive program which includes patient motivation, instructions in diet, good nutrition and a knowledge of the caloric content of foods"

Preludin is indicated in exogenous obesity as a short-term (a few weeks) adjunct in a regimen of weight reduction based on caloric restriction. For full details, please see the Prescribing Information. It is summarized on the adjacent page.

\*Fineberg, S.K.: Presented at Annual Meeting,  
American Society of Geriatrics, New York City, April 5, 1972.

**Preludin®** phenmetrazine hydrochloride NF

---


# Preludin®

phenmetrazine  
hydrochloride

# Endurets®

prolonged-action  
tablets

---

**Preludin®**  phenmetrazine hydrochloride NF

**Indications:** Preludin is indicated in exogenous obesity as a short-term (a few weeks) adjunct in a regimen of weight reduction based on caloric restriction.

**Contraindications:** Advanced arteriosclerosis, symptomatic cardiovascular disease, moderate to severe hypertension, hyperthyroidism, known hypersensitivity or idiosyncrasy to sympathomimetic amines, and agitated states. Patients with a history of drug abuse. Do not use with other CNS stimulants or MAO inhibitors. Use within 14 days following the administration of monoamine oxidase inhibitors may result in hypertensive crises.

**Warnings:** Tolerance usually develops within a few weeks. When it occurs, the recommended dosage should not be exceeded and an attempt to increase anorectic effect.

**Drug Dependence:** Tolerance and extreme psychological dependence have occurred. Patients have been known to increase the dosage of drugs of this type to many times the recommended dosage. Abrupt cessation following prolonged high dosage results in extreme fatigue, mental depression, and reversible changes in the sleep EEG. Manifestations of chronic intoxication include severe dermatoses, marked insomnia, irritability, hyperactivity and personality changes. The most severe manifestation is psychosis, often clinically indistinguishable from schizophrenia.

Caution patients on the possibility of impaired ability to operate machinery or drive a motor vehicle or engage in other potentially hazardous activity.

**Use in Pregnancy:** There have been clinical reports of congenital malformation associated with the use of this compound but a causal relationship has not been proved. Until more information is available, Preludin should not be used by women who are or may become pregnant, particularly in the first trimester, unless the physician feels potential benefits outweigh possible risks.

**Use in Children:** Not recommended for use in children under 12 years of age.

**Precautions:** Use with caution in patients with mild hypertension. Insulin requirements in diabetes mellitus may be altered in association with anorectic agents and concomitant dietary regimen. Psychological disturbances may occur in some patients on a restrictive diet with or without concomitant use of an anorectic agent.

**Adverse Reactions:** Overstimulation, restlessness, insomnia, anxiety, headache, agitation, flushing, tremor, sweating, dizzi-

ness, dryness of the mouth or unpleasant taste, urticaria, gastrointestinal disturbances, nausea, diarrhea, palpitation, tachycardia, elevation of blood pressure, urinary frequency, dysuria, and changes in libido. Psychotic states at recommended dosage have been reported with related drugs.

**Dosage and Administration:** One 25 mg. tablet b.i.d. or t.i.d. one hour before meals, or one 50 mg. or 75 mg. Endurets prolonged-action tablet taken daily. Not recommended for children under 12 years of age.

**How Supplied:** For b.i.d. or t.i.d. administration, pink, square, scored tablets of 25 mg. in bottles of 100 and 1000.

For once-a-day administration, white, round Endurets prolonged-action tablets of 50 mg. in bottles of 100, and pink, round Endurets prolonged-action tablets of 75 mg. in bottles of 100 and 500.

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For complete details, please see the full prescribing information.

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# The Journal of The SOUTH CAROLINA Medical Association

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

## Contributions of Original Articles

**Mailing address**—Edw. E. Kimbrough, M.D., Editor, 2709 Laurel Street, Columbia, S. C. 29204.

**Length**—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

**Manuscripts**—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

**Illustrations**—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

**References**—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

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In acute rheumatoid arthritis consider Tandearil. The anti-inflammatory action of Tandearil quickly helps reduce heat, pain, swelling, and stiffness. Results are usually seen in 3 or 4 days. Try it for a week when the symptoms defy aspirin control.

Remember that Tandearil is not a simple analgesic. It should not be used on patients responding to routine therapy. Before using, please read the prescribing information. It's summarized below.

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Tablets of 100 mg.

**Important Note:** This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasias); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

**Indications:** Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

**Contraindications:** Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyositis rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anti-coagulant therapy.

**Warnings:** Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpracticable benefits against po-

tential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylureas, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmologic examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

**Precautions:** The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or on every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, especially driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

**Adverse Reactions:** This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia,

gastroenteritis, epigastric pain, hamatemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukopenia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), patchy rash, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), axfoliative dermatitis, serum sickness, hypersensitivity angitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscular necrosis, perivascular granuloma, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusion, status, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.

(B)98-146-800-F (10/71)

For complete details, including dosage, please see full prescribing information.

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**two tubes...two weeks**

\*

**Indication:** Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:

"Probably" effective: For the treatment of vulvovaginal candidiasis.

Final classification of the less-than-effective indications requires further investigation.

**Contraindications:** None known. **Precautions:** Cases of sensitization and irritation have been reported. When noted the drug should be discontinued. **Dosage:** One applicatorful intravaginally twice daily for a period of 14 days. Course of therapy may be repeated if necessary.

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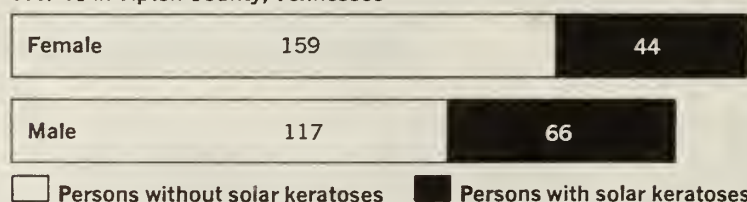
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over 40 have one chance in four  
of having solar keratoses...  
which may be premalignant**

An epidemiologic study\* conducted in Tipton County, Tennessee, revealed that 28.5% of white persons over 40 had solar keratoses; most had multiple lesions. Cluster sampling projected an estimated prevalence of 32.5% for white males and 19.5% for white females.

Though this is an unusually high percentage of affected persons, these lesions can occur in any white population, wherever people work or play out of doors.

**Prevalence of solar keratoses in white persons  
over 40 in Tipton County, Tennessee**



\*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.



## Solar, actinic, senile keratoses

Called by many names, the typical lesion is flat or slightly elevated, brownish or reddish in color, papular, dry, adherent, rough, sharply defined; usually multiple lesions, chiefly on exposed portions of the skin.

## Sequence/selectivity of response

Erythema in areas of lesions may begin after several days of therapy; height of reaction (only in affected areas)\* usually occurs within two weeks, declining after discontinuation of therapy. Since this response is so predictable, lesions that do not respond should be biopsied to rule out the presence of a frank neoplasm.

## Cosmetic results

Cosmetic results are highly favorable. Incidence of scarring is low—important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

## 5% cream—a Roche exclusive

Only Roche formulates the 5% cream... high in patient acceptability... high in clinical efficacy, especially for lesions of hands and forearms... economical.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)amino-methane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

## an alternative to conventional therapy **Efudex<sup>®</sup>** (fluorouracil) cream/solution



Roche Laboratories  
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Nutley, N.J. 07110





# Pinworm therapy is often a family affair



**Contraindications:** History of hypersensitivity to thiabendazole.

**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.

**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction,

patients should be carefully monitored.

**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live *Ascaris* in the mouth and nose. Hypersensitivity reactions



# A New Dosage Form:

## Chewable Tablets 500 mg Mintezol® (THIABENDAZOLE | MSD)



so easy to take  
everyone in the family  
can keep to the  
regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.  
**Supplied:** Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; suspension, containing 500 mg thiabendazole per 5 cc, in bottles of 120 cc.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.

*The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).*

MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.

The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days.  This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

\*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

# Encounter under the Scanning Electron Microscope



## SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in

detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.



*E. coli* + sulfamethoxazole



*E. coli* + tetracycline



*E. coli* + cephalothin



*E. coli* + ampicillin

## Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,<sup>1,3</sup> strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of

its mechanism of action.

"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."<sup>2</sup>

It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.

**References:** 1. Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971. 2. Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother.*, 1:164, 1972. 3. Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note:** Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

**Contraindications:** Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

**Warnings:** Safety during pregnancy has not been estab-

lished. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** Blood dyscrasias (agranulocytosis,



# Encounter in Clinical Practice

## Control of primary bacterial offenders

Antibacterial Gantanol® (sulfamethoxazole) controls susceptible strains of *E. coli* and other gram-negative and gram-positive organisms

often implicated in acute nonobstructed pyelonephritis and cystitis.

## Prompt antibacterial blood and urine levels

In from 2 to 3 hours after the initial 2-Gm adult dose, antibacterial levels are present in

both the blood and urine.

## B.I.D./T.I.D. dosage for around-the-clock coverage

Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking

and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

## Also effective in nonobstructed chronic and recurrent u.t.i.

It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often re-

spond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

## Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide

therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

**In nonobstructed cystitis  
and pyelonephritis due to  
susceptible organisms**

**Gantanol®  
(sulfamethoxazole)  
Basic Therapy**

aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thy-

roid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age** (except adjunctively with pyrimethamine in congenital toxoplasmosis).

*Usual adult dosage:* 2 Gm (4 tabs or teasp.) initially, then 1 Gm b.i.d. or t.i.d. depending on severity of infection.

*Usual child's dosage:* 0.5 Gm (1 tab or teasp.)/20 lbs or body weight initially, then 0.25 Gm/20 lbs b.i.d. Maximum dose should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.



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# ALCOHOLISM

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**BUTISOL Sodium provides highly predictable sedative effect:** minor dosage adjustments are usually all that's needed to produce the desired degree of sedation. (With 3 dosage forms and 4 strengths to make adjustments easy.)

**BUTISOL Sodium offers prompt, smooth, relatively non-cumulative action:** begins to work within 30 minutes... yet, because of its intermediate rate of metabolism, generally has neither a "roller-coaster" nor a "hangover" effect.

**BUTISOL Sodium is remarkably well tolerated:** a 30-year safety record assures you that there is little likelihood of unexpected reactions.

**BUTISOL Sodium saves your patients money:** costs less than half as much as most commonly prescribed sedative tranquilizers.\*

These are four good reasons for prescribing BUTISOL Sodium for the many patients who need to have the pace set just a little slower. Its gentle daytime sedative action is often all that's needed to help the usually well-adjusted patient cope with temporary stress.

\*Based on surveys of average daily prescription costs.

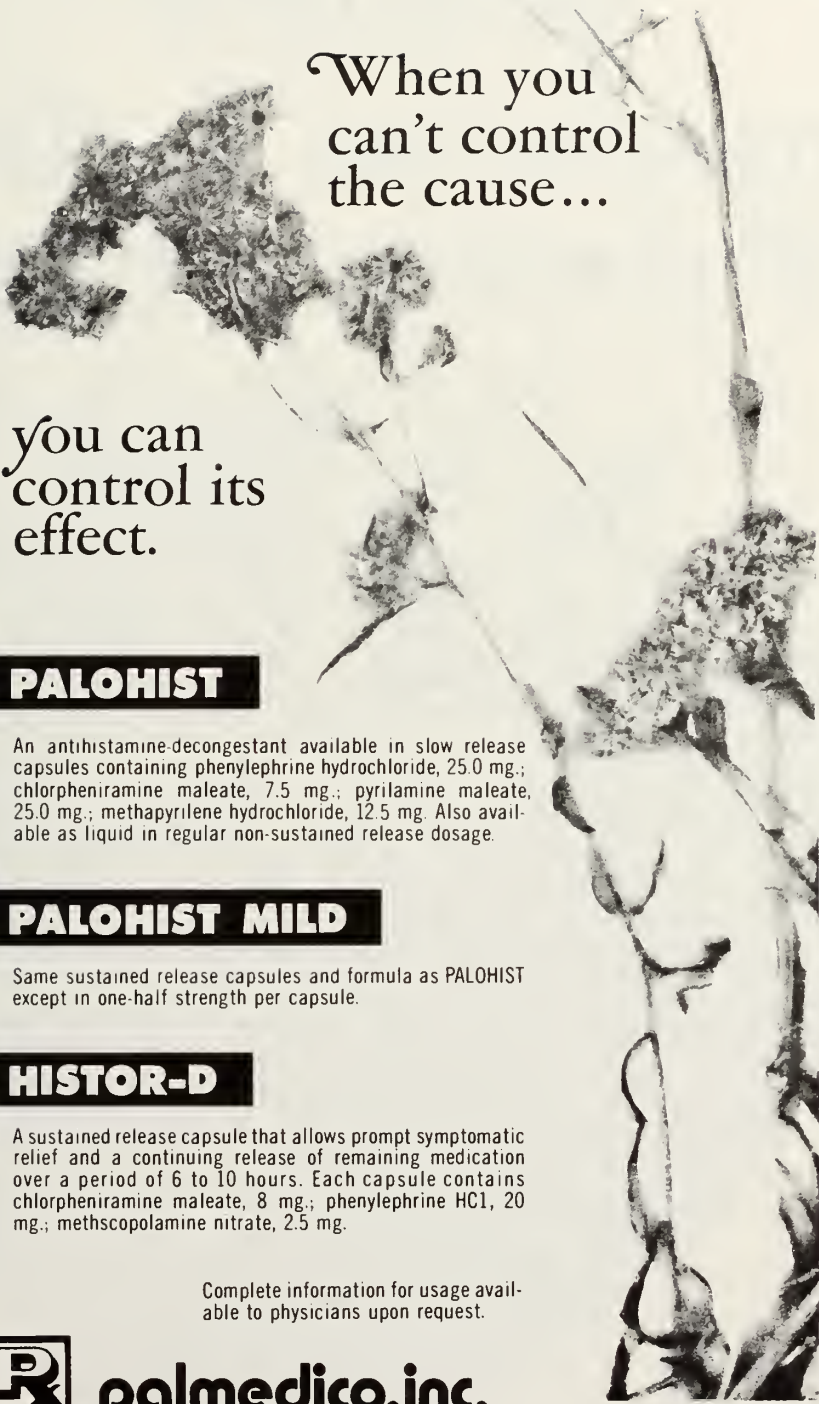
**Butisol** SODIUM<sup>®</sup>  
(SODIUM BUTABARBITAL)

**Contraindications:** Porphyrria, sensitivity to barbiturates, or susceptibility to dependence on sedative-hypnotics. **Warning:** May be habit forming. **Precautions:** Exercise caution in: moderate to severe hepatic disease; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants, because of combined effects. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and gastrointestinal disturbances are seldom seen. **Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg. **Available as:** Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS<sup>®</sup> [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

**McNEIL**

McNeil Laboratories, Inc., Fort Washington, Pa. 19034





When you  
can't control  
the cause...

you can  
control its  
effect.

### **PALOHIST**

An antihistamine-decongestant available in slow release capsules containing phenylephrine hydrochloride, 25.0 mg.; chlorpheniramine maleate, 7.5 mg.; pyrilamine maleate, 25.0 mg.; methapyrilene hydrochloride, 12.5 mg. Also available as liquid in regular non-sustained release dosage.

### **PALOHIST MILD**

Same sustained release capsules and formula as PALOHIST except in one-half strength per capsule.

### **HISTOR-D**

A sustained release capsule that allows prompt symptomatic relief and a continuing release of remaining medication over a period of 6 to 10 hours. Each capsule contains chlorpheniramine maleate, 8 mg.; phenylephrine HCl, 20 mg.; methscopolamine nitrate, 2.5 mg.

Complete information for usage available to physicians upon request.



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ETHICAL PHARMACEUTICALS • P. O. DRAWER 3397 • COLUMBIA, S. C. 29203

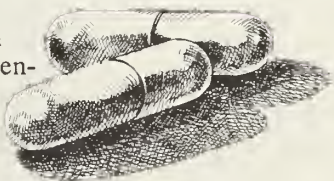
**Because you  
practice  
medicine in the  
Palmetto State...**



You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®

### Helps reduce anxiety-related G.I. symptoms

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



### Patient-oriented dosage — up to 8 capsules daily in divided doses

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

## To help relieve anxiety-linked symptoms in gastritis and duodenitis adjunctive Librax®

ROCHE

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Before prescribing, please consult complete product information, a summary of which follows:

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

ROCHE

Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, New Jersey 07110





Dear Doctor:

The profile of your charges, maintained by Blue Cross and Blue Shield of South Carolina as determinant of the Blue Shield benefits to be paid under programs of Usual and Customary Fee coverage, has been updated to reflect only your actual charges in 1972, to the extent that those charges are known here, and to the extent that they are identifiable by procedure codes for the services you perform.

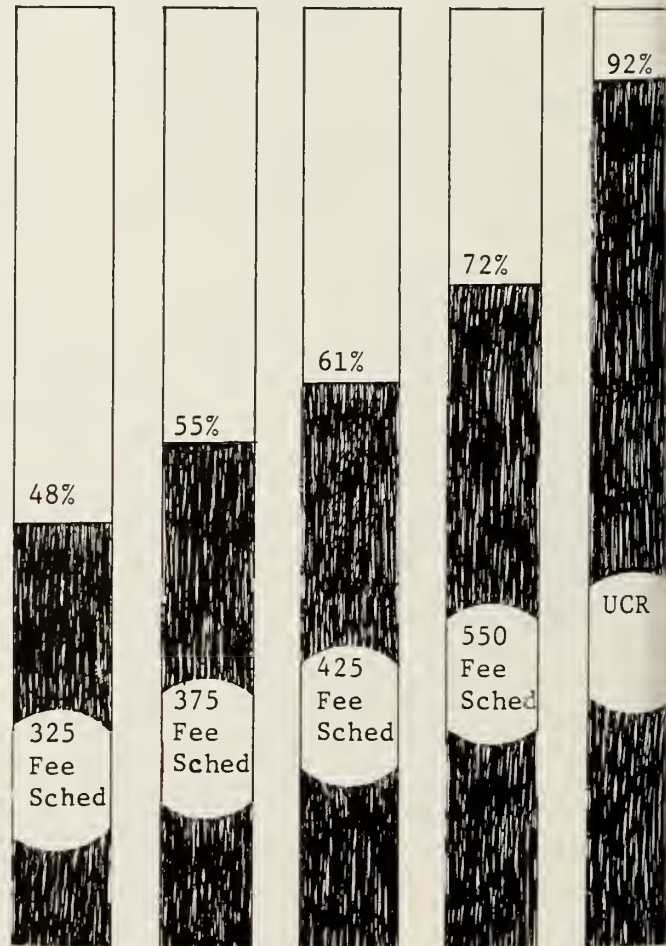
The resulting new profile determines the benefits we pay in all such payments after March 15, 1973. It produces the fullest possible coverage of your full charge for any service included in your profile.

Usual and Customary Fee payments last year by Blue Cross and Blue Shield of South Carolina totaled 92% of the aggregate of all charges by all physicians for services to our members with Usual and Customary Fee coverage. That was the best medical and surgical coverage in South Carolina history, and among the best in the Southeast.

New benefits payable now are even more reflective of your most prevalent and current charges.

The profile is established for every procedure for which we received notification of at least five charges for services to patients, either under Medicare or a Blue Shield program. Your Usual and Customary charge is the middle charge of all your charges, from low to high for the designated procedure.

The graph illustrates total benefit payments under the various Blue Shield contracts during 1972, as percentages of the total recorded charges by physicians to Blue Shield members with those contracts.



*Total benefits as percentage of total charges made by physicians.*

Yours truly,

*Joseph F. Sullivan*  
Joseph F. Sullivan, President

## From M.U.S.C.

The Waring Historical Library has received as a gift from Mrs. Wallace T. Darden of Lockport, N. Y., a Record of Prescriptions Book of her grandfather, Dr. Junius Alcaeus Mayes (1822-1901) of Mayesville, S. C. The library is located on the campus of the Medical University of South Carolina.

Dr. Mayes wrote down the date, name of the patient, complaint, and his prescription, for the years 1876 through 1881. It is an interesting account of a doctor's family practice in the late 19th Century.

Dr. Mayes was a graduate of the Medical College of South Carolina in 1844 and later became president of the South Carolina Medical Association in 1859 and again in 1860. He served as a surgeon for the Confederacy during the Civil War and contributed many articles to the medical journals of his day.

Dr. Mayes' Prescription Book is currently being displayed in the exhibit case on the second floor of the Medical University Hospital.

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## ANNOUNCEMENT

The 19th Annual Ob-Gyn Seminar will be held again this year in Asheville, North Carolina at the Grove Park Inn, July 22 through July 27.

Broad aspects and subjects in obstetrics and gynecology will be presented and program participation will include the medical schools of North Carolina, Duke, Bowman Gray, and the Medical College of Virginia.

For registration information please contact the Secretary, Dr. George T. Schneider, 1514 Jefferson Highway, New Orleans, Louisiana 70121.

## G. P. or Internist Wanted

Wanted: GP or Internist to associate with GP in beautiful gulf coast beach area. Well-equipped office — two hospitals close by. Contact Dr. Freeman Epes, 5132 Ocean Blvd., Siesta Village Plaza, Sarasota, Fla. 33581

# Randomycin (methacycline HCl)

**CONTRAINDICATIONS:** Hypersensitivity to any of the tetracyclines.

**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to early years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

**Usage in pregnancy.** (See above **WARNINGS** about use during tooth development.) Animal studies indicate that tetracyclines cross the placenta and can be toxic to developing fetus (often related to retardation of skeletal development). Embryofetotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fetal bone growth rate observed in premature infants given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms including fungi, discontinue antibiotic and start appropriate therapy.

In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS:** **Gastrointestinal** (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

**Renal toxicity:** rise in BUN, apparently dose related (See **WARNINGS**).

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands, no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE: Adults** — 600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Randomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Randomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

**Children** — 3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

**SUPPLIED:** 'Randomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 12



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# The Journal

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### APLASTIC CRISIS OF SICKLE CELL DISEASE

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Interest in Sickle Cell Disease has been increasing steadily in recent years. At Spartanburg General Hospital in the charity population we have found the most frequent emergency associated with Sickle Cell Disease to be the "aplastic crisis", manifested by signs and symptoms of profound anemia. The purpose of this report is to describe and discuss the three cases of this uncommon presentation of Sickle Cell Disease, which we have seen over a one month period in order that this problem may be suspected in cases of severe acute anemia.

#### CASE REPORTS:

Case 1: J. M., a 12-year-old Negro female, had a one-to-two-week history of an upper respiratory infection and a four to five day history of nausea and vomiting. On the day of admission she became unresponsive. In the emergency room her blood pressure was 100/60, pulse was 110/min and regular, temperature was 99.6 and respiratory rate was 32/min and labored. She was semicomatose and acutely ill. Examination was normal except for scleral icterus and pale mucous membranes. The liver edge was felt three cm below

the right costal margin; the spleen was not felt.

Laboratory Data: Hgb.—2.0 gm %; Hct.—7.0%; Reticulocyte count—0. Examination of peripheral blood film showed many sickled and bizarre forms—no polychromasia was seen. Sickledex — positive. Spinal fluid normal. G6PD —normal. SGOT — 1,180 (normal — 7-40); Bilirubin — 4.15 Total/Direct 2.1; Australian antigen negative.

Case 2: A. A., a 14-year old Negro male, had a four-day history of progressive weakness leading to the inability to walk. This was preceded by a one-week history of generalized myalgia and vomiting.

In the emergency room his blood pressure was 80/30; pulse — 120/min and regular; respirations 18/min; afebrile. He was oriented but extremely weak and could not stand. Examination was normal except for pale mucous membranes. The liver was felt four cm below the right costal margin. The spleen was not felt.

Laboratory Data: Hgb. — 3.5 gm %; Hct. — 11%; reticulocyte count — 0. Peripheral blood film showed many sickled and bizarre forms but no polychromasia. Sickledex — positive. SGOT — 37.

Case 3: L. M., a three-year-old Negro female with known Sickle Cell Disease, had one-week history of malaise and difficulty walking.

In the emergency room her blood pressure was 100/40; pulse — 110/min and regular; respiration — 22 min.; temperature — 98.6°. She was lethargic and unable to walk. Examination was normal except for pale mucous membranes.

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Neither liver nor spleen were felt.

Laboratory Data: Hgb. — 3.5 gm %; Hct. — 10%; reticulocyte count — 0. Peripheral blood film showed many sickled and bizarre forms — no polychromasia seen. SGOT — 140 units.

### DISCUSSION

The frequency of Hemoglobin S is generally accepted to be 8-10 per cent of the population with approximately 1 out of 500 of these having homozygous Hemoglobin S disease.<sup>1</sup> According to the textbooks, presentation of the disease may take the form of four distinct "crises": Vaso-occlusive or pain crisis, hyperhemolytic crisis, sequestration crisis, and aplastic crisis. The vaso-occlusive or pain crisis is accepted to be the most common presentation. Aplastic crisis has been described as a profound erythroid bone marrow failure which results in a rapid, pronounced anemia without hemolysis. The reticulocyte count is reported as low and jaundice is an unusual finding since increased hemolysis is not a factor.<sup>3</sup>

In our three cases the consistent findings were that all had preceding constitutional symptoms compatible with a "possible viral illness" and all presented in the emergency room with varying degrees of signs and symptoms related to profound anemia. In the laboratory all had evidence of marked anemia and total reticulocytopenia with peripheral blood film confirmation of the lack of bone marrow activity. One of the patients had a significant degree of clinical jaundice. All were hospitalized briefly and treated successfully with packed red blood cell transfusions.

### SUMMARY

Three cases of "aplastic crisis" in Sickle Cell Disease are described in which the patients presented with profound anemia. We feel the possibility of "aplastic crisis" should be considered whenever an appropriate patient is seen with signs and symptoms of a severe acute anemia.

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# BRONCHIAL DISRUPTION SECONDARY TO BLUNT THORACIC TRAUMA

## A CASE REPORT

JOHN P. SUTTON, M. D.\*

JOSEPH A. PINKERTON, M. D.\*\*

Bronchial disruption is a serious sequelae to blunt thoracic trauma. The lethal nature of this entity and the high mortality occasioned by associated injuries had left the impression for many years that its occurrence was relatively rare. With the increased efficiency of emergency medical services and increased numbers of high speed automobile accidents, this injury is now being seen more frequently in the acute stage.

Although the entity was first described from autopsy material in 1899, by Shields,<sup>1</sup> the first nonfatal bronchial disruption was not described until 1939.<sup>2</sup> In 1949, Griffith<sup>3</sup> reported the successful repair of a disrupted bronchus by end to end anastomosis. It is now clear that early repair of bronchial disruption will avoid the late pulmonary sequelae often requiring resective therapy. The present report deals with the early repair of a disrupted right mainstem bronchus by end to end anastomosis.

**Case Report DSVUH No. 501614:** This 23-year-old male was involved in an automobile accident 18 hours prior to admission to Vanderbilt University Hospital. He was treated initially in an adjacent community where tracheostomy was performed to alleviate marked respiratory distress. Subsequent to tracheostomy, he developed in-

creasing subcutaneous emphysema and bloody sputum, and he continued to experience difficulty breathing.

Upon admission to Vanderbilt University Hospital, he was noted to have a fracture of the mandible, a patent tracheostomy, and moderate respiratory distress manifested by slight cyanosis, tachypnea, and stertorous respirations. Breath sounds were absent over the right hemithorax and bloody sputum was produced via the tracheostomy. Admission x-ray film is seen in figure 1.



Figure 1. Admission chest x-ray film showing right pneumothorax, pneumomediastinum and massive subcutaneous emphysema.

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Figure 2. Partial re-expansion and pneumomediastinum is seen subsequent to insertion of a chest tube.

A chest tube was inserted and connected to underwater seal. Partial re-expansion was seen associated with massive air leakage (Figure 2). Because of the finding of pneumomediastinum, persistent right sided pneumothorax, massive air leakage, associated left sided pneumothorax, and hemoptysis, a tracheobronchial injury was suspected. Bronchoscopy was performed through the tracheostomy and a disrupted right mainstem

bronchus just distal to the carina was seen.

The patient was operated via a right posterio-lateral thoracotomy. The endotracheal tube was inserted into the left mainstem bronchus, and the left lung was ventilated (Figures 3 & 4). This permitted a careful dissection and end to end anastomosis of the right mainstem bronchus to the carina. Synthetic braided sutures were utilized.

The post-operative course of this patient was uneventful. Post-operative chest x-ray film and bronchograms are seen in figures 5 & 6. Prior to discharge, bronchoscopy demonstrated good mucosal approximation with adequate bronchial lumen. The patient subsequently has done well and when last seen six months after operation was having no further difficulty.

### DISCUSSION

Bronchial disruption is being seen in increased incidence subsequent to decelerating or crushing closed chest trauma. Several pathophysiologic circumstances have been suggested to account for this injury:



Figure 3. Endotracheal tube is guided into the left mainstem bronchus.



Figure 4. Right mainstem bronchial repair accomplished while left lung is being ventilated selectively. Nonabsorbable suture technique placing the knots externally is utilized.



1. A shearing force of the decelerating lungs on the more fixed mediastinal structures.<sup>4</sup>
2. Compression of the anteroposterior diameter of the chest with lateral widening and distraction of the carinal region.<sup>6</sup>
3. An increase in intraluminal pressure due to closure of the glottis and sudden increase in intrabronchial pressure.<sup>6</sup> (Laplace's Law would account for the development of greater tension in the larger bronchi with increases in intrathoracic pressure against a closed glottis).

Although the exact sequence of events must remain somewhat conjectural, it is probable that several phenomena operate. It has been shown in animals that a lateral traction of three kilograms is required to disrupt the carinal region whereas a vertical or downward pull of eleven kilograms is required.<sup>5</sup> It has also been shown that



Figure 6. Bronchogram obtained three weeks post-operatively.

the majority of bronchial injuries occur within two cm of the carina.<sup>7</sup> It would seem that a compression of the anteroposterior diameter of the chest with lateral widening and distraction of the carinal region associated with a sudden increase in intrabronchial tension would be a plausible sequence to account for this injury.

There are no pathognomonic clinical features of bronchial disruption. Most frequent findings are: Dyspnea, pneumothorax, subcutaneous and mediastinal emphysema, cyanosis and hemoptysis. Chesterman found tension pneumothorax in 25 per cent and bilateral pneumothorax in five per cent of the cases he reviewed. A massive air leakage after insertion of a thoracostomy tube is particularly characteristic of this lesion. Bronchoscopy has proved to be the single most valuable diagnostic adjunct.

In the present case, the patient presented with dyspnea, cyanosis, hemoptysis, mediastinal and subcutaneous emphysema, and pneumothorax. Air leakage was massive. These findings suggested a diagnosis which was easily confirmed by broncho-



Figure 5. PA roentgenogram of the chest obtained after the eighth post-operative day.

scopy.

There appears to be no good reason to delay repair once a diagnosis is made. Certainly, some cases will seal by interposition of mediastinal tissues.<sup>4</sup> If these are not repaired, strictures could form. The retention of secretions distal to the stricture results in bronchopulmonary supuration and eventually in bronchiectasis. In those cases surviving complete separation, the distal stump usually seals and the bronchial tree fills with a cast of sterile mucous. In either case, operative repair is considerably complicated by hilar adhesions and scarring. In the acute situation, repair is simplified to some extent by the fact that dissection has been accomplished by the traumatic event. The endotracheal tube can be guided through the torn stump in the contralateral bronchus and repair easily accomplished in a leisurely fashion. Alternative approaches include the utiliza-

tion of a carlens or wright double lumen tube. Repair then can easily be accomplished with nonabsorbable sutures. Available studies demonstrate no significant alteration in lung function in those cases having undergone repair.

### SUMMARY

A case of bronchial disruption seen acutely and undergoing successful repair is described. This entity is being seen in increasing numbers due to the increased efficiency of emergency medical services and the increased numbers of decelerating and crushing chest injuries secondary to high speed automobile accidents. The finding of pneumothorax, hemoptysis, and massive air leakage continuing after insertion of a chest tube should increase the index of suspicion for this entity. The single most valuable diagnostic adjunct has proved to be bronchoscopy.

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## X-RAY FILMS OF THE MONTH

G. E. RICHMOND, M.D.  
Department of Radiology  
Richland Memorial Hospital  
Columbia, S. C.



**HISTORY:** Fifteen month old caucasian male in good health, except for intermittent episodes of dyspnea without cyanosis since birth. This patient was the product of a full term pregnancy and a normal delivery.

**WHAT IS YOUR X-RAY DIAGNOSIS?**

1. Normal chest.
2. Congenital cysts of the base of the left lung.
3. Staphylococcal pneumonia of the left lung with pneumatoceles.
4. Hernia of the Foramen of Bochdalek.

**ANSWER:** Hernia of the Foramen of Bochdalek. These are due to persistence of the embryonic pleuroperitoneal canals. This particular example contained the splenic flexure of the colon as proven by barium enema. However, almost any of the abdominal viscera may be involved in these congenital hernias.



# President's Pages



In this era of acronymic governmental agencies, i.e.: SCRMP, HSHMA, GHA, and countless others, there is another one known as H.M.O. which has been very much under discussion for several years. Probably well known is the fact that H.M.O. stands for Health Maintenance Organization. Possibly not so well known is the fact that in all the proposed legislation pertaining to H.M.O.'s in the Congress of the United States in recent years, a definition of an H.M.O. was not given in a single instance. There are many documents that describe what an H.M.O. may do or should do, so to speak, but not what it is.

Therefore, it is believed that it should be made clear to all that an H.M.O. is a closed-panel, group practice on a pre-paid capitation basis for the rendition of medical care in a system which inculcates the loss of right of choice of private physician, and abolition of the fee-for-service method of payment.

The provision for H.M.O's to be created under Federal auspices and with Federal financing, as part of the recently enacted Public Law 92-603, really represents further interference by the Federal Government in the practice of medicine by vesting ultimate control in laymen under the direction of the H.E.W. bureaucracy.

Another provision of Public Law 92-603 calls for the creation of a nationwide network of physicians or presumably physician-controlled organizations to exercise surveillance over other physicians in the practice of private medicine, but again, ultimately, control is vested in the hands of the H.E.W. bureaucracy. These organizations are termed Professional Standards Review Organizations (PSRO's). It should not be lost on Doctors of Medicine that they are included in the membership of the PSRO's to still their opposition, and if they (the doctors) fail to fall into the trap of voluntary servitude, H.E.W. stands ready to exercise its recently acquired authority over the practice of medicine among patients whose care is even partly financed by Federal monies.

It is sad indeed that all of this feverish activity against doctors is based on the false assumption that doctors and doctors alone are responsible for the current high cost of medical care. It is also based on the assumption that an H.M.O. can provide virtually all preventive and therapeutic medical care at a lesser cost than can be provided under our present predominantly private practice system for those able to pay, and under our predominantly tax supported clinics for those eligible for care at public expense. Actually, there is no proof of this. H.M.O.'s already in existence are having just as much trouble holding down costs. Kaiser-Permanente, usually cited as the ideal, is still raising rates, and its director has stated that effective utilization of its professional staff is in jeopardy because "the elimination of the fee (for service) is as much a barrier to early sick care as the fee itself."

In the efforts of the State of South Carolina to create an H.M.O. for its employees,

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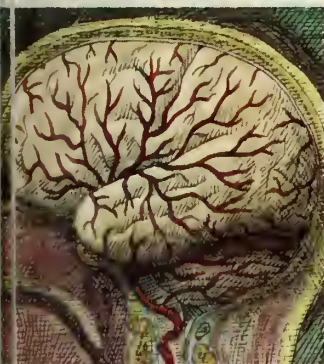
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**Indications:** Lomotil is effective as adjunctive therapy in the management of diarrhea.

**Contraindications:** In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

**Warnings:** Use with caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis.


**Usage in pregnancy:** Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the

breast milk of nursing mothers.

**Precautions:** Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage not exceed recommended dosages. Administer with caution to patients receiving addictive drugs known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage. Strictly observe contraindications, warnings and cautions for atropine; use with caution in children since signs of atropinism may occur even with recommended dosage.

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**Dosage forms:** Tablets, 2.5 mg. of diphenoxylate  
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**Warnings:** Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Warn patients of possible additive effects with alcohol and other CNS depressants.

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**Adverse Reactions:** Drowsiness, excessive dryness of nose, throat or mouth; nervousness; or insomnia. Also, nausea, vomiting, epigastric distress, diarrhea, rash, dizziness, weakness, chest tightness, angina pain, abdominal pain, irritability, palpitation, headache, incoordination, tremor, dysuria, difficulty in urination, thrombocytopenia, leukopenia, convulsions, hypertension, hypotension, anorexia, constipation, visual disturbances, iodine toxicity (acne, parotitis).

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it is considered extremely important that the medical profession of this State not allow the development of a closed-panel system, but rather it should insist upon the right of choice of private physician by the patient. Further, it should insist upon the fee-for-service method of payment. Any other system of medical practice has not led to improvement in quality of care, or to lessening of cost if adequate care were administered. Any other system of medical practice has actually led to unrest, conflict, oppression, and waste. We must avoid in the State of South Carolina, the known complications of political medicine.

Edward F. Parker, M. D.  
President

# Editorials

## The Forty-Ninth State

In 1931, Henry L. Mencken, the "Sage of Baltimore," had the audacity to devise a method of ranking the states for a three-part series in *The American Mercury* called "The Worst American State." Florida (36th and Virginia (37th) were the only Southern states above the bottom ten. South Carolina was 46th, superior only to Alabama and Mississippi. Admittedly, Mencken had some prejudice against the South, stating in his essay, "The Sahara of the Bozart," that the South was a "gargantuan paradise of the

fourth rate," and "there are single acres in Europe that house more first rate men than all the states south of the Potomac." His ratings corroborated his sentiment.

In 1972, on the fortieth anniversary of Mencken's compilation, John Berendt<sup>1</sup> attempted a valid ranking of the states to commemorate and contemporize Mencken's. Berendt updated and improved the system to increase its validity. He used 40 parameters, divided into four major areas: Wealth, Culture, Health and Security, and Civic Affairs.

Under "Wealth" were such measurements as:

Income per Capita .....	S. C.	\$2,908,	47th
Assessed Value of Property per Capita .....	S. C.	400,	50th
Households with telephones .....	S. C.	8,090,	43rd
Cadillacs and Lincolns per 100,000 .....	S. C.	91,	35th
(Good salesmen, anyway)			

The "Culture" section contains such items as:

Percent of illiteracy .....	S. C.	5.5%,	49th
Median Years of School Completed .....	S. C.	8.7,	50th
Expenditure per Pupil .....	S. C.	\$656,	39th
Teacher Salaries .....	N. C.	\$8,168,	34th
	S. C.	\$7,000,	47th
Scientists per 100,000 .....	N. C.	124,	33rd
	S. C.	72,	48th

Under "Health and Security:

Physicians per 100,000 .....	Maryland	152,	6th
	S. C.	76,	47th
(exactly half as many)			



Pharmacists per 100,000 .....	S. C.	48,	40th
Internships per 100,000 .....	S. C.	3.2,	41st
*Deaths Caused by Flu and Pneumonia .....	S. C.	30.7,	10th
**Suicides per 100,000 .....	S. C.	7.1,	3rd
Our only spots in the Top Ten.			
Homicides per 100,000 .....	S. C.	14.6,	49th
And under "Civic Affairs":			
Percent of Voting Age Voting for President, 1968 .....	S. C.	47.6%	49th
State Legislatures—efficient .....	S. C.		50th
State Legislatures—overall .....	S. C.		44th
State Legislatures as rated by the Citizens Conference on State Legisla- tures, 1970.			

#### Relative Standing of the States

	Wealth	Culture	Health and Security	Civic Affairs
S. C.	48th	48th	43rd	47th

#### Final Standings

1972	1931
46 North Carolina	South Carolina
47 Alabama	Alabama
48 Arkansas	Mississippi
49 South Carolina	
50 Mississippi	

It appears that our state has slipped in these 40 years. In 1931, there were two states below us in these rankings. In 1972, only Mississippi saved us from being The Worst American State!!

What does all this mean? Of course, this ranking system did not consider certain untangibles that we value very highly, such as soft and pleasant climate ("Under So Kind a Sky"), social amenities and personal gallantry. But these ratings do utilize hard, definitive data — no prejudice possible.

These data indicate we are in a hole and slipping deeper. For all those who love South Carolina, this seems a clear call to redouble our efforts, to forget ourselves and to make what self sacrifices are necessary to help our State climb the ladder

towards at least parity with other states in our region.

Education seems the most effective route to this parity. Education, massive education at all levels, in all directions. We must tax and tax, scrimp and build educational efforts in many phases—kindergartens for all, post doctorate studies for some, technical education centers for many, excellent primary and secondary public institutions, colleges and universities, both private and public, must be supported. It will take great effort, much sacrifice, but we must accept no less. We can accept no less. Let us move forward.

E.E.K.

<sup>1</sup>Berendt, John: "The Worst American State," *Lifestyle*, Vol. 1, 2:6-18, November, 1972.

### Special Notice

Not all things that come from California are kookie. John Hawk, South Carolina delegate to the American Medical Association, thought this resolution introduced by the California delegation to the A.M.A. was worthy of your attention. I agree. This resolution shows some clear views and makes some cogent statements on the proper relationship of our profession to the current debate on health matters and government. I commend it to your attention.

Whereas, Principles of Medical Ethics, as endorsed and re-endorsed by this House, obligate a physician not to "dispose of his services under terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause a deterioration of the quality of medical care"; therefore be it

*Resolved*, That the American Medical Association believes that the medical profession has an obligation to its members and the public to participate in any debate on a national or state policy concerning health, medical care or health insurance, but that such participation should be predicated on the premise of strong statements of principle; and be it further

*Resolved*, That the following principles are essential:

1. All individuals should have access to high quality medical care *in a climate in which competent physicians can practice to the best of ability*.
2. The individual himself *has responsibility to seek and accept such medical care*, however, the medical profession shares in the responsibility for educating the individual to seek and accept care.
3. Financing medical care through vol-

untary, private indemnity insurance is the means whereby individual freedom and responsibility can be best preserved and the enhancement of future high quality medical care can be best assured. Policies sold should be adequate to meet the purchasers' predictable needs. In addition, full service insurance policies and prepaid closed panel programs are options to provide desirable competition and to meet the desires and/or needs of some patients and some physicians.

4. Standards are needed by which the public can judge the adequacy of health insurance contracts.
5. The profession alone should have the responsibility to monitor the quality of medical care provided by its members since only physicians can properly evaluate *medical care*.
6. Medical associations have voluntarily accepted responsibility to assist individual patients and/or third parties in protecting themselves against exploitation of any form and should continue to seek improved means to serve this function in the future.
7. Assistance to those unable to pay for medical care should be provided where a need actually exists and to the degree needed. In the provision of medical care this can best be accomplished through the purchase of private health insurance.

and be it further

*Resolved*, That the House of Delegates of the American Medical Association directs the Board of Trustees to develop a positive program consistent with the principles stated above in support of the private practice of medicine.

E.E.K.

## LETTER TO THE EDITOR

[In his article on snakebite] Dr. Bradham indicates that coral snake antivenin is available from the Center for Disease Control, Atlanta, Georgia. I think South Carolina physicians would be interested in this additional information.

Recently the Center for Disease Control distributed the North American Coral Snake Antivenin (equine origin), manufactured by Wyeth Laboratories to all state laboratories. The Bureau of Laboratories, S. C. State Board of Health, received 3 sets. These have been distributed as follows: one package is at the Poison Control Center, Richland Memorial

Hospital, Columbia, S. C. (Attn: Miss Tarrer); one package was sent to the Poison Control Center, Pharmacy, Medical University of S. C. and the third package is kept here at the Bureau of Laboratories (telephone number 803-758-5502). In addition, one complete treatment is stored at the Fort Jackson Pharmacy (Attn: Capt. Taylor).

Complete instructions are included in each package.

Arthur F. DiSalvo, M. D., Chief  
Bureau of Laboratories  
State Board of Health

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## OPPORTUNITIES IN SOUTH CAROLINA

WANTED — Medical staff members of the Piedmont Health Care Corporation, newly-established to serve the northwestern region of South Carolina. Opportunity to participate fully in a comprehensive community-based, family-centered health care service program on a team basis with attractive working conditions, income, and liberal fringe benefits. Teaching relationship with family practice residency training program may be arranged. Living in beautiful Piedmont Region of South Carolina is added attraction. Must have or obtain license in South Carolina.

Please send inquiries to:

Terrell O. Carver, M.D.  
Health Services & Medical Director  
Piedmont Health Care Corporation  
Post Office Box 3744  
Greenville, South Carolina 29608

or call collect (803) 836-8136.

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Pathologist for Bureau of Laboratories, South Carolina State Board of Health. Supervise

laboratory facilities of 200 bed respiratory disease hospital (State Park Health Center) and those State laboratory sections performing hemoglobin electrophoresis, detection of in-born errors of metabolism, cytogenetics, immunology, syphilis serology and implementation of South Carolina Laboratory Licensure Act. Salary plus fringes.

For details, please write to:

Arthur F. DiSalvo, M.D.  
Chief, Bureau of Laboratories  
S. C. State Board of Health  
2600 Bull Street  
Columbia, South Carolina 29201

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Wanted: Third man to join two-man family practice. Liberal starting salary, pension plan and medical plan. Located in area with pleasant living conditions, good schools and considerable growth potential. Also, new community hospital. If interested, send resume to EDGEFIELD MEDICAL CLINIC, P.A., P. O. Box 530, Edgefield, South Carolina.



# SCMA

State Legislators will have their minor health needs attended to by a new DOCTOR OF THE DAY program sponsored by the South Carolina Medical Association. This innovative program has worked well in surrounding state legislatures and calls for individual physicians from throughout the state to spend one day each at the State House while the Assembly is in session.

Dr. Dexter B. Rogers of Easley, coordinator of the project, recalled that last year one former legislator suffered a heart attack while the assembly was in session, one child fell down the stairs during a visit by her school class, and a large number of dangerously high blood pressures were discovered at the first aid station among the law makers and State House staff.

"Last year, too," said Dr. Rogers, "Dr. Frank Owens, Senator from Richland County was present at all times. Since he has returned to private practice, the Medical Association feels that having a doctor on duty will serve a very useful purpose."

During the 1972 session, the Medical Association sponsored a first aid station in the State House lobby staffed by two nurses from the cardiac unit of the Richland Memorial Hospital in Columbia.

These nurses were effective in aiding legislators and staff suffering from coughs and colds and other minor medical problems. They will return again this year to assist in the program.

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A contract has been awarded to the firm of Lyles, Bissett, Carlyle, and Wolfe Architects for the design and construction of the permanent headquarters of the South Carolina Medical Association.

The new Executive Offices of the Medical Association, representing 1,800 South Carolina physicians, will be located near the Richland Memorial Hospital on a two acre tract of land.

Dr. C. Tucker Weston of Columbia, Chairman of the statewide Permanent Home Committee, stated that the 30,000 square foot building will house the Medical Association, the newly formed S. C. Foundation for Medical Care, and the Columbia Medical Society.

"It is anticipated," Dr. Weston said, "that construction will begin in late spring with completion being in the spring of 1974."

The present headquarters of the Association are in Florence; a branch office was opened in Columbia in August, 1970.



## 50 YEARS AGO

March, 1923

Lee County reorganized its medical society and Hampton was preparing to do the same. The question of tuberculosis was reviewed in two articles. Greenville County Medical Society had 74 members.



Governor John C. West has formally appointed the five new members of the Charleston County Medical Examiners Commission. They are: **Drs. Gordon R. Henniger, Jr., Middleton H. Lambright, Cecil F. Jacobs, Lawrence Richter and Archie D. Willis.** Six new members have been added to the Medical Executive Committee of Providence Hospital and 12 other members have been re-elected. Elected recently were: **Dr. Ambrose G. Hampton, Jr.,** member-at-large; **Dr. Dale W. Longaker,** chief of surgery; **Dr. J. Baynard Ellis, Jr.,** chief of pathology; **Dr. John D. Morales,** chief of anesthesiology; **Dr. Joseph B. Workman,** chief of ophthalmology; and **Dr. David J. McMurray,** chief of ear, nose and throat. Re-elected were: **Dr. Harry J. Metropol,** chief of staff; **Dr. Lawrence V. Jowers,** vice chief of staff; **Dr. Robert J. McCardle,** secretary; **Dr. Charles H. Peebles** and **Dr. Edward M. Schlaefer,** members at large. Also: **Dr. James C. Vardell,** medicine; **Dr. James H. Blair, Jr.,** gynecology; **Dr. Joseph A. Plyler,** general practice; **Dr. Charles A. James,** pediatrics; **Dr. Warren F. Holland,** cardiovascular services; **Dr. Walter Kochanski,** orthopedics; and **Dr. Joseph H. Miller,** urology.

**Dr. Joseph I. Waring** has been honored for 35 years of service to the Medical University of South Carolina. Dr. Waring, curator of the Waring Historical Library, actually has given 45 years of service to the university, but part of that time has been on a voluntary basis. **Dr. Hugh V. Coleman** of Marion has been appointed chairman of the Professional Education Committee of the Marion County unit of the American Cancer Society. **Dr. Layton McCurdy,** professor and chairman of the Department of Psychiatry at the Medical University of South Carolina has been appointed to the State Advisory Council on Alcohol Abuse and Alcoholism.

**Dr. Susanne Black** of Dillon has recently been chosen to receive the coveted Physicians' Award from the American Medical Association.

**Dr. James W. Colbert, Jr.** of Charleston has been named a board member and vice president of institutional affairs of the newly formed Health Education Media Association. The association is a national organization of professionals involved in the use of multimedia instructional aids in the health sciences. At the November meeting of the York County Medical Society, **Dr. Howard Snyder** was elected president for 1973; **Dr. Max A. Culp,** vice-president; and **Dr. Roderick MacDonald,** secretary-treasurer. **Dr. Frank Graves** was named to succeed **Dr. Henry C. Roberston, Jr.** on the board of commissioners at Roper Hospital in Charleston. **Dr. Spottswood P. Neale** has been elected president of the Kershaw County Medical Society for 1973. Other new officers are: **Dr. Robert E. Davis, Jr.,** vice president, and **Dr. Saied Ameen,** secretary-treasurer.

**Dr. Myers H. Hicks,** Florence internal medicine and allergy specialist, has been elected chief of the active medical staff for the coming year at McLeod Memorial Hospital. Elected vice-chief of staff was **Dr. N. B. Baroody, Jr.,** and **Dr. E. W. Taylor** was elected secretary. **Dr. C. S. Davis** was elected treasurer. **Dr. N. D. Ellis** will serve as chief of surgery; **Dr. W. F. Parker,** chief of medicine; **Dr. James C. Owen,** chief of the obstetrics and gynecology staff; and **Dr. B. B. Monroe,** chief of the pediatric staff. **Drs. Louis D. Wright, Jr., W. L. Westercamp,** and **R. E. Hudgens** were elected to the staff's executive committee.

**Dr. Leon Banov, Jr.** has been named president-elect of the Charleston County Medical Society. Now serving as president of the Society is **Dr. Louis P. Jervy.** Other officers

elected included **Dr. H. Biemann Othersen, Jr.**, secretary-treasurer; and **Dr. L. B. Jenkins**, vice-president. **Dr. Robert M. Johnson** of Charleston has been named a Diplomat of the American Board of Bariatric Medicine.

**Dr. Frank Weir, Jr.**, is the new president of the Spartanburg County Medical Society. President-elect is **Dr. E. E. Hague**. Other officers are **Dr. Leslie Howard**, vice president; **Dr. Tommy B. Griffin**, secretary; and **Dr. William F. Price**, treasurer. **Dr. Mack Davis** and **Dr. Henry Kelly** were also elected to the executive committee. **Dr. J. B. Willis** has been elected new medical staff chief at Elliott White Springs Memorial Hospital in Lancaster. Other officers were **Dr. J. A. Boykin**, vice chief; and **Dr. R. G. Renner**, medical staff secretary. Committee chairmen appointed were: **Dr. R. Y. Wescoat**, profes-

sional activities; **Dr. J. P. Horton**, medical records; **Dr. M. L. Chordia**, utilization review; **Dr. L. G. Llewelyn**, pharmacy and therapeutics; **Dr. Lois Carter**, infection control; **Dr. Carson Jones**, professional library; and **Dr. Joe Smith**, patient care.

**Dr. Samuel R. Moorhead, Jr.** has announced the opening of his office for the practice of pediatrics at 506 Summitt Avenue in Anderson. **Dr. Frank W. Young** has opened an office in the Lexington Medical Mall in West Columbia. The practice is limited to treatment and surgery of the ear, nose and throat. **Dr. W. Gordon Whitlock** has announced the beginning of a pediatric practice at 135 South Ribault Road in Beaufort. **Dr. John E. Walton**, a native of Florida, has opened an office for the practice of medicine, limited to urology, at 316 Memorial Drive in Greer.

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## NOTICE OF MEETING

The Department of Obstetrics and Gynecology, Duke University Medical Center is sponsoring the "Ninth Annual E. C. Hamblen Symposium in Reproductive Biology and Family Planning." The symposium will be held at Duke University Medical Center, Durham, North Carolina on June 8, and 9, 1973. The two day program will have both basic and clinical orientation and is designed for practitioners and residents in obstetrics and gynecology.

Invited speakers for the Symposium include: **Dr. W. D. Odell**, Chief, Division of Endocrinology, Professor of Medicine and Physiology, and Chairman, Department of Medicine, Harbor General Hos-

pital, UCLA, Torrance, California; **Dr. Jack Pritchard**, Professor and Emeritus Chairman, Department of Obstetrics and Gynecology, Southwestern Medical Center, University of Texas, Dallas, Texas; and **Dr. John F. Kantner**, Johns Hopkins School of Public Health, Baltimore, Maryland.

Registration fee for the symposium will be twenty-five dollars, but there will be no charge for residents and students. Inquiries should be addressed to Post Office Box 3143, Duke University Medical Center, Durham, North Carolina, 27710.

**Charles B. Hammond, M. D.**  
Director, Division of  
Gynecologic Endocrinology





E. Kenneth Aycock, M.D., M.P.H.  
Secretary and State Health Officer

### Fluorescent Antibody Application in the Diagnosis of Fungal Diseases

Fluorescent antibody (FA) is another serological tool in the diagnosis of mycotic diseases. It may be used either for the identification of organisms or for the detection of specific antibodies.

There are four principal advantages in using Fluorescent Antibody techniques. The first is speed. An examination can usually be completed in three or four hours. Second, they are sensitive. The fluorescent antibody can detect the antigen when relatively few organisms are present. Third, fluorescent antibody will stain non-viable organisms and fourth, a mixed culture can be examined using these techniques. Fungal conjugates usually have excellent sensitivity but some lack specificity. This defect can usually be overcome by considering the morphology of the organism.

There are two fluorescent antibody staining procedures used in medical mycology: DIRECT and INDIRECT. The Direct Method, the simplest form of examination, is the staining of antigens with fluorescent antibody. The labeled antibody for the specific fungus is applied directly to the clinical material or the unknown isolate (the antigen). A presumptive identification of fungi in clinical material submitted for cultures may be made. When possible all positive FA reactions are confirmed by standard culture techniques.

Tissue sections which are formalin-fixed and paraffin-embedded may be used. Fungi in tissue sections which have previously been stained by the hematoxylin and eosin, the Brown and Brenn, and the

Giemsa procedures can be stained by the fluorescent antibody technique. However, sections which have previously been stained by the Gomori Methenamine-Silver, the Periodic-Acid-Schiff (PAS), or the Gridley procedures cannot be used.

The Bureau of Laboratories has antifungal conjugates for *Histoplasma capsulatum*, *Blastomyces dermatitidis*, *Sporothrix schenckii*, *Actinomyces israelii*, *Actinomyces naeslundii* and *Candida albicans*.

The second method of Indirect FA procedure is a modified Coombs' type of reaction. Unlabeled antibody (the patient's serum) is mixed with unlabeled antigen to form an unlabeled product. In the second step, labeled antihuman antibody is allowed to react with the unlabeled product. The patient's antibody then acts as a specific antigen for the labeled antihuman antibody if the patient has antibodies to that specific disease entity. Thus the product is a fluorescein labeled antihuman-antigen-antibody to the fungus disease in question.

The Indirect FA procedures, for the detection of serum antibody, is presently available only for cryptococcal antibody. Serum or cerebrospinal fluid may be submitted with Form 1330 for this examination.

Other fluorescent antibody studies available from the Center for Disease Control through the Bureau of Laboratories are: Direct FA for *Aspergillus*, *Mucor*, *Dermatophylus congolensis*, *Nocardia caviae* and for the differentiation of *Trichophyton mentagrophytes* from *T. rubrum*.

*"The history of science, and in particular the history of medicine...is... the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."*

*—George Sarton, from "The History of Medicine Versus the History of Art"*

**Are there significant  
differences in bioavailability  
and clinical predictability  
among drug products?**

**Opinion**

Results of a questionnaire to  
7,000 physicians:

**44.6%**

**Agree there is a significant  
difference**

**24.9%**

**Believe there is no difference**

**30.5%**

**Had no opinion**

# Are there significant differences in bioavailability and clinical predictability among drug products?

## Teacher of Medicine

Alfred Gilman, Ph.D.  
Wm. S. Lasdon  
Professor & Chairman  
Department of  
Pharmacology  
Albert Einstein  
College of Medicine of  
Yeshiva University



I think that there can be a very great distinction between generic drugs and brand name drugs. And that applies to products of original research that have outlived their patent protection as well as to drugs that have long been in the public domain. Let me explain why.

### The Importance of the Manufacturing Environment

In terms of formulation, quality control, and the ability to reproduce an essentially identical product, batch after batch, I doubt that many firms are properly equipped to put out a product that is as carefully controlled as the product marketed by a pharmaceutical company with sophisticated research and high quality manufacturing facilities. For example, when a company comes out with its own preparation of a drug that has just lost its patent protection, there is no assurance that the drug it produces will be a therapeutic equivalent. The raw material could be identical and yet bioavailability might vary from complete unavailability to that which is equivalent to the original.

### It Isn't Enough to Meet USP and NF Standards

Meeting USP and NF standards is not enough to guarantee therapeutic equivalence. In certain instances, stricter standards must be applied. Right now, the New York Heart Association has a committee that is studying the problem of digoxin equivalent

lency. I am certain that they are going to recommend a bioavailability assay of a particular digoxin. Unless this is done, they will not recommend it for purchase or use in New York City hospitals. It represents too much of a hazard. They have gone so far as to recommend a batch-by-batch certification of bioavailability even though the company has been reproducing and marketing a digoxin product through the years.

### The Problem of Controlling Bioavailability of Generics

The FDA does not have the manpower to inspect the quality control capabilities of hundreds of houses specializing in generic products. And I don't think that the average pharmacist is knowledgeable or aware of the quality and bioavailability of the infinite numbers of generic preparations. A recommendation has been made that every time a generic house (or for that matter a large pharmaceutical company) markets an already existing drug for the first time, a modified new drug application should be submitted. The manufacturer would have to show that his compound is the therapeutic equivalent of the standard compound in use, assuming that the standard compound is one that has been available for an extended period—say 15 years. This would be one indication that the control of bioavailability is beginning to get the attention that it deserves.

### Clinical Predictability More Important Than Price

Although the question of price has been greatly exaggerated, it is true that patients can on occasion save money on generic drugs. But you are not going to dare attempt to save money if it jeopardizes patient's health. Let us turn to the example of digoxin. This has become very prominent in recent years, that is, cardiac glycosides. These are probably the most important drugs we use with regard to the small differences between a maximally effective dose and a toxic dose. When you are dealing with drugs of this type, the first concern must be clinical predictability. At the time of variations in bioavailability, it would be sheer folly to try to save the patient what might amount to maybe \$10 or \$20 a year. The physician cannot afford to neglect his patient unless he is sure that the drug he is prescribing has the positive effect each time the prescription is refilled. This is especially important when the patient is on a chronic drug, the product, not for the product, but for the rest of his



## Maker of Medicine

J. Cavallito, Ph.D.  
Executive Vice President  
F. Hoffmann-Laurig Laboratories



minimize nonequivalence of drug components produced by different manufacturers. Arguments relate largely to the extent of product inequivalences. Experience over the past six years has uncovered a greater incidence of nonequivalence of products prepared by different manufacturers from generically equivalent substances than many had previously surmised.

### Newer Bioavailability Studies Reveal Differences

Although equivalence of different preparations of a substance may be determined by certain physical, chemical or biological characteristics, identity is not assured even though these characteristics may be described in compendia such as the USP, NF or defined by other specific standards. Moreover, even with equivalent substances, similar pharmaceutical products produced by different manufacturers such as these products are biologically or therapeutically equivalent.

Bioavailability may be defined as a measure of the rate and amount of absorption of a drug substance from its administered dosage form. For several years pharmaceutical scientists have proposed that bioavailability data on presumably equivalent dosage forms provide the best measure of product equivalence—short of adequate clinical trial. In their continued search for shortcuts to the evaluation of product equivalence, medical and pharmaceutical scientists have increasingly relied upon bioavailability characteristics as reflected by blood levels of a drug after its administration to human subjects.

growing Awareness of Potential for Nonequivalence. As experience increases with drug substances derived from different sources under different conditions, it should be possible to establish specifications in sufficient detail to minimize the potential for their nonequivalence. However, there is general agreement that product therapeutic equivalence would still not be assured even if one could

Leading manufacturers now conduct comparative bioavailability studies on their own product dosage forms after production process changes that would have been considered inconsequential a few years ago. This isn't surprising, since there are so many possible differences in production operations that the opportunities for inequiva-

lent generic and brand name products are numerous—even when the production process begins with identical chemical substances. Moreover, reputable manufacturers are striving to improve *in vitro* control measures, such as dissolution characteristics, which are being related more meaningfully to bioavailability reference data.

As a result of advances in scientific instrumentation and analytical methodology which permit measurements of small quantities of drug substances in the body, our abilities to detect differences in bioavailability and possible therapeutic nonequivalence have appreciably improved.

### Product Selection Based on Patient Response

Improved specifications and standards can better assure the equivalence of drug substances. Manufacturers, compendia and regulatory agencies can all play a part. However, it is the drug product, not the drug substance, that the physician, pharmacist, nurse and patient-customer utilize. How can these indi-

viduals make or influence specific product selections to minimize variations in therapeutic equivalence of multisource drugs? Patients' responses to a drug product provide a basis of experience to aid the physician in his selection of a particular product. The nurse and pharmacist can also help detect patient responses, but ultimate responsibility must remain with the physician.

### Reputation of Manufacturer as Basis for Product Selection

The physician, to assure that his patients receive quality health care, must rely upon the capabilities of the reputable pharmaceutical manufacturer who is equipped to develop, prepare and control a quality product of uniform, reliable therapeutic performance. Substitution with purportedly equivalent generic products that are only superficially evaluated by an imitator manufacturer can place the health of the patient secondary to factors of price or convenience for the provider.

## Opinion & Dialogue

What is your opinion, doctor?  
We would welcome your comments.



The Pharmaceutical Manufacturers Association  
1155 Fifteenth Street, N.W., Washington, D.C. 20005



## MINOCIN<sup>®</sup> made the difference in just eight days.\*

### Clinical Data:

**Patient:** 47-year-old male.

**Diagnosis:** Severe pyoderma, left hand.

**Culture:** *Staphylococcus aureus*, coagulase positive and sensitive to MINOCIN.

**Temperature:** 102° F

**Therapy:** MINOCIN Minocycline HCl Capsules, 100 mg: 200 mg *stat*, 100 mg every 12 hours. Medication began 9/7/71. By fourth day, temperature was normal and pustular lesions considerably improved. Last dose taken 9/14/71.

**Concomitant therapy:** None.<sup>†</sup>



Semisynthetic

**MINOCIN<sup>®</sup>**  
**MINOCYCLINE HCl**

Capsules, 100 mg: 2 *stat*, 1 q 12 h.

**Indications:** For the treatment of susceptible infections; e.g., *E. coli*, *D. pneumoniae*. For full list of approved indications consult labeling.

**Contraindications:** Hypersensitivity to any tetracycline.

**Warnings:** The use of tetracyclines during tooth development (last half of pregnancy, infancy and childhood to the age of 8 years) may cause permanent discoloration of the teeth (yellow-gray-brown). This is more common during long-term use but has been observed following repeated short-term courses. Enamel hypoplasia has also been reported. Tetracyclines, therefore, should not be used in this age group unless other drugs are not likely to be effective or are contraindicated. In renal impairment, usual doses may lead to excessive accumulation and liver toxicity. Under such conditions, use lower total doses, and, in prolonged therapy, determine serum levels. Photosensitivity manifested by an exaggerated sunburn reaction has also been observed in some individuals taking tetracyclines. Advise patients apt to be exposed to direct sunlight or ultraviolet light that such reaction can occur, and discontinue treatment at first evidence of skin erythema. Studies to date indicate that photosensitivity does not occur with MINOCIN Minocycline HCl. In patients with significantly impaired renal function, the antianabolic action of tetracycline may cause an increase in BUN, leading to azotemia, hyperphosphatemia, and acidosis. CNS side effects (lightheadedness, dizziness, vertigo) have been reported, may disappear during therapy, and always disappear rapidly when drug is discontinued. Caution patients who experience these symptoms about driving vehicles or using hazardous machinery while taking this drug. **Pregnancy:** In animal studies, tetracyclines cross the placenta, are found in fetal tissues, and can have toxic effects on the developing fetus (often related to retardation of skeletal development). Embryotoxicity has been noted in animals treated early in pregnancy. Safety of use during human pregnancy has not been established. **Newborns, infants and children:** All tetracyclines form a stable calcium complex in any bone-forming tissue. Prematures, given oral doses of 25 mg./kg. every 6 hours, demonstrated a decrease

in fibula growth rate, reversible when drug was discontinued. Tetracyclines are present in the milk of lactating women who are taking a drug of this class.

**Precautions:** Use may result in overgrowth of nonsusceptible organisms, including fungi. If superinfection occurs, institute appropriate therapy. In venereal diseases when coexistent syphilis is suspected, darkfield examination should be done before treatment is started and blood serology repeated monthly for at least four months. Because tetracyclines have been shown to depress plasma prothrombin activity, patients on anticoagulant therapy may require downward adjustment of such dosage. Test for organ system dysfunction (e.g., renal, hepatic and hemopoietic) in long-term use. Treat all Group A beta hemolytic streptococcal infections for at least 10 days. Avoid giving tetracycline in conjunction with penicillin.

**Adverse Reaction:** GI: (with both oral and parenteral use): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in anogenital region. **Skin:** maculopapular and erythematous rashes. Exfoliative dermatitis (uncommon). Photosensitivity is discussed above ("Warnings"). **Renal toxicity:** rise in BUN, dose-related (see "Warnings"). **Hypersensitivity reactions:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus. In young infants, bulging fontanels have been reported following full therapeutic dosage, disappearing rapidly when drug was discontinued. **Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia. **CNS:** (see "Warnings.") When given in high doses, tetracyclines may produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

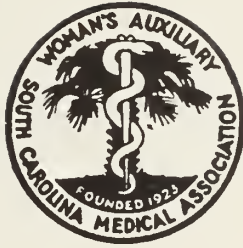
**NOTE: Concomitant therapy:** Antacids containing aluminum, calcium, or magnesium impair absorption; do not give to patients taking oral minocycline. Studies to date indicate that absorption of MINOCIN is not notably influenced by foods and dairy products.

\*Indicated in infections due to susceptible organisms. Culture and sensitivity testing recommended. Tetracyclines are not the drugs of choice in the treatment of any staphylococcal infection.  
<sup>†</sup>Case Report, Clinical Investigation Department, Lederle Laboratories.



LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York 10965 12-20 436-2





WOMAN'S AUXILIARY  
to the  
SOUTH CAROLINA MEDICAL ASSOCIATION

# Golden Anniversary 1923~1973



Mrs. J. Ray Ivester  
President

HEADQUARTERS for the FIFTIETH YEAR convention for the Auxiliary will be:

OCEAN DUNES MOTOR INN  
74th - 75th Avenue North  
Myrtle Beach, S. C.



**PRE-REGISTRATION FORM**

**GOLDEN ANNIVERSARY YEAR CONVENTION  
WOMAN'S AUXILIARY TO THE SOUTH CAROLINA  
MEDICAL ASSOCIATION**

**May 13 - 16, 1973**

**HEADQUARTERS:** Ocean Dunes Motor Inn, 74th - 75th Avenue North  
P. O. Box 2035, Myrtle Beach, S. C.

Please print or type

Name\_\_\_\_\_First name\_\_\_\_\_

Address\_\_\_\_\_

City\_\_\_\_\_S. C. Zip\_\_\_\_\_

Where staying in Myrtle Beach\_\_\_\_\_

Check Desired Activity and Include Check.

Monday, May 14, 1973

- 12 noon, Pine Lakes International Country Club  
☐ The S. C. Day Luncheon .....\$5.00 per person  
7:30 p.m. Pine Lakes International Country Club  
☐ Plantation Feast and Cocktails .....\$12.00 per person

**HUSBANDS ENCOURAGED TO ATTEND!!**

Tuesday, May 15, 1973

- 12 noon, The Dunes Golf and Beach Club  
☐ The Golden Anniversary Luncheon .....\$5.00 per person  
Registration Fee for all Members .....\$1.00 per person

Reservation form with check should be mailed prior to May 1, 1973, to:

Mrs. Peter C. Gazes  
21 Country Club Drive  
Charleston, S. C. 29412

Tickets will be held in your pre-prepared kit at the PRE-REGISTRATION desk in the second lobby of the Ocean Dunes Motor Inn.

Check if attending:

Monday, May 14, 1973—Ocean Dunes Motor Inn

- ☐ 8:30 a.m. — Complimentary CONTINENTAL BREAKFAST

Tuesday, May 15, 1973 — Ocean Dunes Motor Inn

- ☐ 8:30 a.m. — Complimentary CONTINENTAL BREAKFAST

## HIGHLIGHTS OF THE CONVENTION:

### Luncheons!

**South Carolina Day** — Monday, May 14, 1973

Pine Lakes International Country Club

**Golden Anniversary Day** — Tuesday, May 15, 1973

The Dunes Golf and Beach Club

### Fashions!

John Baldwin of South Carolina and Florida

### South Carolina Bird Artist

Anne Worsham Richardson

### Under the Stars at Pine Lakes

## PLANTATION FEAST

Two Whole Roast Suckling Pigs — Garnish  
Pit Cooked Barbecue Pork with Hot Sauce  
South Carolina Homemade Brunswick Stew  
Barbecued Chicken  
Fried Filet of Flounder a la South Carolina — with Tartar Sauce  
Sliced Ham  
Cole Slaw — S. C. Cabbage  
Baked Sweet Potatoes  
South Carolina Baked Beans  
Potato Salad  
Fresh Turnip Greens  
Deviled Eggs  
Dill Pickles — Assorted Relish Trays  
Homemade Cornbread and Corn Dodgers  
Spiced Fruit Bowls  
Iced Tea  
Apple Turnovers  
Ranch Pudding with Whipped Cream  
Sweet Potato Pie

*P.S. Please take this issue home and show your wife what exciting plans we have made for her!*



## **SOUTH CAROLINA REGIONAL MEDICAL PROGRAM**

**VINCE MOSELEY, M.D.**  
Coordinator, South Carolina

### **Regional Medical Advisory Group Approves Nine New Projects**

The Advisory Group of the S. C. Regional Medical Program meeting in Columbia February 4 approved nine new operational project proposals for improved health care for South Carolinians.

The operation of these and continuation of current operations depend on the availability of funds by Congressional appropriation. The new projects, if funded, will start July 1, 1973. Currently SCRMP is supporting 45 operational projects, contracts and planning studies throughout the State but has been notified that by Executive Order all funding will cease June 30, 1973. Ordinarily its fiscal year begins September 1.

The new projects reflect the Regional Medical Program's expanded efforts involving health manpower development, primary health care delivery patterns and regionalization of health facilities, manpower and other resources.

In addition to approving the nine new project proposals and continuation of 18 current operational projects, the 47-member Regional Advisory Group named new officers as follows: Chairman, Dr. Louis D. Wright, Jr., Florence; Co-Chairman, William L. Yates, Columbia; Vice-Chairman, Dr. William A. Klauber, Greenwood, and for Secretary the group renamed Dr. Vince Moseley, Charleston.

Dr. Wright, who has been serving as vice-chairman of the Advisory Group, succeeds Dr. James W. Colbert, Jr., vice-president for Academic Affairs at the Medical University of S. C., Charleston.

Dr. Klauber, director of the Nuclear Medicine Technology Program at Self Memorial Hospital, Greenwood, replaces Dr. Wright.

William L. Yates, executive director of the S. C. Hospital Association, succeeds William B. Finlayson, administrator at the Conway (S.C.) Hospital.

The new operational projects approved by the Advisory Group are as follows (Shown are title, sponsor, director's name and proposed activities):

**SHARED HEALTH MANPOWER DEVELOPMENT PROGRAMS** — Self Memorial Hospital, Greenwood, Kenneth Flinchum, to provide a shared manpower development program through varied educational methods for the five hospitals in the six-county district. Nursing home programs will be included.

**ADVANCED TRAINING FOR EMERGENCY MEDICAL TECHNICIANS** — South Carolina Hospital Association, William L. Yates, Columbia, to initiate programs for advanced training of emergency medical technicians and present courses at four locations in the state.

**HEALTH MANPOWER DEVELOPMENT PROGRAM IN OPERATING ROOM NURSING** — Richland Memorial Hospital, Columbia, Dr. Donald H. Harwood, to upgrade R.N.'s with no experience and update experienced R.N.'s in the role of an operating room nurse.

**EASTERN PEE DEE HOSPITAL TRAINING PROGRAM** — Marion County Memorial Hospital, David G. Askins, Sr. and Joe Morris, Marion, to establish a program for hospital orientation training,



refresher training and other health manpower development in four community hospitals. Vocational schools, TEC centers and colleges in the area will participate in these programs.

**AREA WIDE SOCIAL SERVICES IN COMMUNITY HOSPITALS** — Health Planning Region, The Tuomey Hospital, Sumter, Ralph M. Abercrombie, Jr., to implement social services functions in five hospitals in a five-county area and to upgrade patient referral and care by all institutions and agencies.

**MOBILE HEALTH UNIT FOR WILLIAMSBURG COUNTY** — Williamsburg Memorial Hospital, Dr. James Connally, Kingstree, to provide a mobile health facility and health team for improved health care and referral services for the rural poor in Williamsburg County.

**PERINATAL CENTER** — Medical University of S. C., Dr. Abner H. Levkoff,

Charleston, to provide a model center for providing specialized care for high risk pregnancies and neonatal cases.

**SOUTH CAROLINA STUDENT HEALTH PROGRAM** — Student American Medical Association, Paul Wright, Rolling Meadows, Ill., (participants include State Board of Health, SAMA, Health Districts, Office of Economic Opportunity, Medical University of S. C. and local educational institutions), to provide supporting health services in rural areas and attract health personnel through the assignment of student health teams.

**PROGRAM FOR IMPROVED DIABETIC CARE** — Medical University of S. C., Dr. John A. Colwell, to establish an education center for diabetics which will train patients in self medication control, diet, personal hygiene and early recognition of complications.

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## MEETINGS

South Carolina Chapter of the American Academy of Family Physicians, October 31 - November 2, 1973, Hilton Head Inn, Hilton Head Island, South Carolina.

American Association for Clinical Immunology and Allergy, November 29 - December 2, 1973, The Hilton Palacio Del Rio Hotel, San Antonio, Texas. Direct inquiries to Robert J. Brennan, 3471 N. Federal Hwy., Ft. Lauderdale, Florida 33306.

South Carolina Heart Association, Scientific Sessions, Friday, May 4, Mills Hyatt House, Charleston, South Carolina. For detailed program write The South Carolina Heart Association, P. O. Box 5937, Columbia, South Carolina 29200

Chicago Committee on Trauma of the American College of Surgeons, May 9 - 12, 1973. For further information contact the American College of Surgeons, 55 East Erie Street, Chicago, Illinois 60611.

## DEATHS

### **DR. C. K. LINDLER**

Dr. Claude Keller Lindler, 74, of Columbia died November 30 in the Baptist Hospital in Columbia. Born in Lexington, he graduated from the Medical University of South Carolina in 1924. He was a member and former president of the Richland County Medical Society and served as chief of staff at both Baptist Hospital and Columbia Hospital. Dr. Lindler practiced in Columbia from 1925 until his retirement in 1970.

### **DR. HEYWARD HUDSON**

Dr. Heyward Hudson, 35, of Greenville, died suddenly on December 14. Born near Walterboro, he was a 1962 graduate of the Medical University of South Carolina and served his internship and residency at Greenville General Hospital in obstetrics and gynecology. Dr. Hudson was a member of the Greenville Medical Society, the South Carolina Medical Association, the American Medical Association, and was a diplomate of the American Board of Obstetricians and Gynecologists. He had served for the past year as director of the residency program in obstetrics and gynecology at Greenville General Hospital.

### **DR. E. M. HICKS**

Dr. E. M. Hicks, 82, physician and church leader in Florence, died December 30 in a Florence hospital after an illness of several months. A practicing physician in Florence for 54 years, he formerly taught obstetrics in McLeod Infirmary School of Nursing. Dr. Hicks was a graduate of Johns Hopkins Medical School and a member of the American Medical Association, the South Carolina Medical Association, and the Florence County Medical Association.

### **DR. M. H. McLIN**

Dr. Marvin H. McLin, 55, of Batesburg, died early January 3 in the Baptist Hospital after suffering an apparent heart

attack. Dr. McLin was born in Augusta, Georgia and graduated from the University of Georgia School of Medicine. He interned in the Georgia Baptist Hospital in Atlanta and did his residency at Aiken County Hospital. Dr. McLin began his practice of general medicine in Batesburg in 1946, following three years in the U. S. Navy. He was a member of the local district and state medical societies.

### **DR. M. E. BECKHAM**

Dr. Mack Edward Beckham, Columbia pediatrician, died January 21 at his home in Columbia. Dr. Beckham was a graduate of the Tulane University School of Medicine and interned at Columbia Hospital in 1962. After serving his residency in New Orleans' Charity Hospital, he was a flight surgeon in the U. S. Air Force.

### **DR. T. S. HEMINGWAY, JR.**

Dr. Theodore Stark Hemingway, Jr., 88, died January 26 at his residence in Kingstree. A 1912 graduate of the Medical University of South Carolina, Dr. Hemingway served his internship at New York Post Graduate School and Hospital in general medicine and pediatrics. He was a member of the South Carolina Medical Association and the first member of the honorary medical staff of Williamsburg County Hospital.

### **DR. P. B. SANDIFER**

Dr. Peter Byrnes Sandifer, 46, a prominent Columbia urologist, was killed in a car wreck on February 9. He graduated from the Medical University of South Carolina in 1955 and had been practicing urology in Columbia since 1960. Dr. Sandifer served his internship and residency at the Medical University and later served as chief resident of urology at Emory University in Atlanta. He was a member of the staffs of Lexington County, Baptist, and Richland Memorial Hospitals at the time of his death.

# COMPREHENSIVE HEALTH PLANNING IN SOUTH CAROLINA\*

SOUTH CAROLINA STATE BOARD OF HEALTH  
E. KENNETH AYCOCK, M.D., M.P.H., STATE HEALTH OFFICER

S. J. ULMER, JR., DIRECTOR  
OFFICE OF COMPREHENSIVE HEALTH PLANNING

## IN THE BEGINNING THERE WAS...

Then came Public Health Law 89-749, authorizing Federal support for Comprehensive Health Planning.

- November 3, 1966: "the fulfillment of our national purpose depends upon promoting and assuring the highest level attainable, for every person, an environment which contributes positively to healthful individual and family living"
- February, 1967: Governor designates S. C. State Board of Health as the State agency to conduct statewide comprehensive health planning in South Carolina
- November, 1967: 25-member Advisory Council appointed by the Governor—includes 13 consumers and 12 providers
- December 5, 1967: Public Law 90-174 extends and expands grants for comprehensive health planning through June 30, 1970
- 1968: State law establishes comprehensive health planning in South Carolina Organization of a 100-member Health Forum, to act in a consultative capacity to the Advisory Council.
- 1970: Public Law 91-515 extends Comprehensive Health Planning for three years (through June 30, 1973). The new law requires that the membership of the Advisory Council include the State Coordinator of the Regional Medical Program and a representative from the Veterans Administration Hospitals.
- 1971: New State law changing the membership of the Advisory Council to conform with new Federal requirements. Membership of council was increased from 25 to 33 members, adding four new providers, representing the Veterans Administration Hospitals, and S. C. Regional Medical Program (as stipulated by P. L. 91-515), and in addition, representatives from S. C. Optometric Association, and Association of Podiatrists, and four new consumers.

And here we are in early 1972, reflecting back over the past 4 years of Comprehensive Health Planning in South Carolina.

A good part of the agency's efforts have been directed toward encouraging the development of district comprehensive health planning agencies.

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\*This report is supported by  
Public Health Service Project Grant Number 04-X-455-000-72  
made under the  
"Partnership for Health Act of 1966," as amended



As a result of all the efforts, there are now ten established health planning districts in South Carolina, *all* of which now have designated agencies responsible for comprehensive health planning and health planning councils. Districts and their designated agencies are as follows:

Appalachia	S. C. Appalachian Region Health Policy and Planning Council
Upper Savannah	Upper Savannah Regional Planning and Development Council
Catawba	Central Piedmont Regional Planning Commission
Central Midlands	Central Midlands Regional Planning Council
Lower Savannah	Lower Savannah Regional Council
Wateree	Santee-Wateree Regional Planning Council
Pee Dee	Pee Dee Planning and Development Council
Waccamaw	Waccamaw Regional Planning and Development Council
Charleston Area	Charleston Area CHP Council
Lowcountry	Lowcountry Regional Planning Council

We keep in close contact with these district planning agencies.

One of our staff members acts in a liaison capacity to agencies, visiting frequently and keeping the communication lines open between the state (us) and district planners.

Although four (4) district agencies receive federal funds for Comprehensive Health Planning, six (6) *DO NOT*. All ten districts have organized Advisory Councils and are developing district comprehensive health plans.

In addition, we offer consultative services to all agencies, and have conducted orientation workshops for areawide health planning Advisory Councils.

### WORKSHOPS

October, 1970:	Lower Savannah Regional Planning and Development Commission
November, 1970:	Lowcountry Regional Planning and Development Commission
December, 1970:	Central Midlands Regional Planning Council
February, 1971:	Pee Dee Development and Planning Commission (orientation)
September, 1971:	Waccamaw Regional Planning Council
April, 1972:	Central Piedmont Regional Planning Commission

In addition to these workshops conducted for the benefit of areawide planning agencies and councils, we have conducted numerous other conferences and seminars geared not only towards planners, but to providers and consumers alike.

May 29 and 30, 1969: The Office of Comprehensive Health Planning, in collaboration with S. C. Regional Medical Program, conducted a conference for providers, consumers, and areawide planners.

March & April, 1970: Seminars in Greenville, Florence and Columbia for consumers and providers— to discuss impact of comprehensive health planning on provision of health services; to obtain ideas on new and better ways of providing health care for those who need it. These seminars serve to involve the practicing physician in Comprehensive Health Planning.

One of our biggest accomplishments has been the completion of the first edition of the *S. C. Comprehensive State Health Plan*, in November, 1971, the backbone of which is a list of ten priorities for improving the level of health of all South Carolinians. Recommendations were obtained from both the Health Forum and from five operational task forces (health manpower, facilities, resources, services, and education) set by the Advisory Council. The task forces worked two years examining existing conditions in South Carolina, identifying needs, and thus making recommendations based on these needs.

**IN ASTHMA  
IN EMPHYSEMA**



*optional  
therapy*



# **THE** mudranes®

All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications** are listed above. **MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with ½ to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

## **MUDRANE—original formula**

*First choice*

## **MUDRANE-2**

*When ephedrine is too exciting  
or is contraindicated*

## **MUDRANE GG**

*During pregnancy or when K.I. is  
contraindicated or not tolerated*

## **MUDRANE GG-2**

*A counterpart for Mudrane-2*

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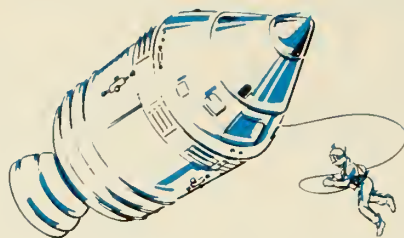
*For pediatric use  
or where liquids are preferred*

*Clinical specimens  
available to physicians.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*





Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . a prophylaxis to prevent kidney or bladder calculi.

# Uro-Phosphate®

NOW A SUGAR-COATED TABLET

Each tablet contains: METHENAMINE, 300 mg.; SODIUM ACID PHOSPHATE, 500 mg.

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages

complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

## Dosage:

For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.

2 tablets at retiring will keep residual urine acid and sterile, contributing to comfort and rest.

A clinical supply will be sent to physicians and hospitals on request.



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## THE TOP TEN PRIORITIES

1. That comprehensive health planning be pursued throughout South Carolina with vigor;

2. That the most severe effects of hunger and malnutrition be eliminated in South Carolina by 1974;

3. That an immediate beginning be made toward shifting the emphasis of health care in South Carolina from crisis intervention and sporadic care to health maintenance;

4. That a comprehensive family planning program be developed;

5. That the mental health program be expanded through support for the Department of Mental Health's developmental plan, which emphasizes new programs and facilities for treating alcohol and drug addiction, the modification of the state hospitals to a system of mental health care based on a high level of systematic linkage between well-defined hospital units (villages) and a specific community mental health area(s), the extension of services through community mental health centers, and continued advancements in manpower development and utilization;

6. That specific and direct instruction in health, including sex education of which family life education and reproductive responsibilities are essential phases be required as a separate subject area in the public system by the S. C. Department of Education;

7. That the Medical University of South Carolina reorient its training of health manpower to support the concept of health maintenance;

8. That nursing home and boarding home services for the aged be closely monitored by the appropriate state agency;

9. That all public water systems in South Carolina contain a minimum of 0.7 milligrams of fluoride per liter of water;

10. That injury control be recognized as a statewide goal and that the public school system be used as a medium for encouraging injury control.

The recommendations were distributed both to the general public and to appropriate agencies and organizations which have a role in both health planning and implementation of health plans.

The 100-member Health Forum and Advisory Council are currently in the process of discussing avenues of implementation, including agencies which can assist, in the actualization of these recommendations.

All task forces involve people representing a wide variety of agencies and interests, and—in keeping in line with the Comprehensive Health Planning tenet—the task forces involve both providers and consumers of health care, with a majority of consumers.

## HIGHLIGHTS OF ACTION TAKEN

Recommended that the Medical University of South Carolina establish a program to train physician's assistants.

Recommended that hospitals and others encourage and assist in analyzing content of health service jobs to ensure that the time of skilled workers is NOT wasted. In seminars, workshops, and conferences employers are now being encouraged to make greater use of allied health workers.

Recommended continuing study of licensing practices, especially with respect to nursing home administrators, hearing aid salesmen, clinical laboratories, and ambulance drivers. A S.C. State law passed in 1971 now requires that anyone engaged in the selling of hearing aids must be licensed by the State Board of Health.

Recommended conducting a health education survey of both health personnel and programs, and the effectiveness of such, as a starting point to plan effectively for future improvements of health instruction programs. Survey is now completed and final report submitted. The agency will shortly be reviewing findings in hopes of implementing better health instruction in the schools of South Carolina.

Endorsed: (1) Conduct of a comprehensive statewide health manpower survey. The survey which was accomplished by the S. C. Employment Security Commission, resulted in publication of *Manpower . . . Requirements and Resources in South Carolina* in 1969, followed by a more extensive and occupationally detailed supplemental report in May, 1971. We (S. C. Comprehensive Health Planning Agency) contributed \$5000 to help finance the study. (2) Promotion of the Commission

on Higher Education's program for training health educators in South Carolina colleges. The University of South Carolina has now established a four-year program leading to the B.S. degree in health education.

Proposed, drafted, and endorsed enactment of Hospital Franchising Law to govern construction of new hospital facilities and nursing homes. The Bill requires that those desirous of building or modifying a new hospital or nursing home acquire a "certificate of need" from the State Board of Health. The Bill became Law in 1971.

In addition, two new task forces have been organized. Mid-1971 saw the organization of the Environmental Health Task Force. Subgroups have been formed and all are busy identifying needs and problems of the environment.

Very recently organized, is the new Drug Cost Task Force, established to investigate the sale and cost of drugs in South Carolina. The need of such a study was identified as one of the top 18 priorities recommended by the S. C. Comprehensive Health Planning Agency for improving the level of health of South Carolinians.

#### **OUR ADVISORY COUNCIL**

Our thirty-three (33) member Advisory Council is composed of both providers and consumers of health care, with a majority of the latter.

An important new function has recently been delegated to the Advisory Council. Governor West has appointed the body as the review agency for Phase II of President Nixon's Price Stabilization Program. Relevant to its new function the Advisory Council will review applications made by institutional providers of health care for exceptions to the guidelines allowed by the Price Commission. In conjunction with the review, they will make recommendations to the IRS, who has legal authority regarding final decisions.

The Advisory Council for Comprehensive Health Planning is distributed into five standing committees. They've been up to lots of things! Let's take a look at just some of the highlights.

*REGIONAL HEALTH PLANNING COMMITTEE* has been actively working with

areawides and reviewing 314(b) applications and developed criteria for determining eligibility for recognition as a DISTRICT CHP agency.

*HEALTH PROBLEMS AND NEEDS COMMITTEE* busies itself identifying unsolved health problems and needs, and subsequently recommending courses of action to meet these needs. They have just completed and distributed a Directory of Health Services for South Carolina.

*INTERAGENCY COORDINATION COMMITTEE* reviews health items in state budgets, pursuant to the fairly recent Bureau of the Budget Circular A-95. Prime purpose?—to avoid duplications. They are also busily involved in fostering interagency cooperation in South Carolina.

*STATE PLAN COMMITTEE* is primarily engaged in the review and approval of the Comprehensive Health Planning program and the resulting State Plan. Among other things, they study reports to identify points that need more detailed study for assignment to appropriate task forces.

*LEGISLATIVE REVIEW COMMITTEE* is forever studying, evaluating, and making recommendations on state and local legislation affecting the health of South Carolinians.

#### **JULY 1, 1970 WAS AN IMPORTANT DATE . . .**

MEDIHC (Military Experience Directed Into Health Careers) became operational. We were assigned the responsibility of coordinating the program. Up to this time, the records of 187 applicants have gone through this office. Short briefs on each applicant are included as a standard feature in our monthly newsletter.

Several hundred copies of specifically requested records have been furnished to many prospective employers. In addition, numerous retrieval searches have been done as requested by agencies, hospitals, etc. interested in any candidate meeting their specified qualifications.

#### **. . . AND IN THE LEGISLATIVE AREA . . .**

It may be a bit repetitive—*BUT—*

S. C. State Comprehensive Health Planning Agency has been active in promoting legisla-



tion which would contribute to better health for South Carolinians.

One of the most significant contributions in the area was the passage in 1971 of the "Certificate of Need," or Hospital Franchising Law drafted, endorsed, and promoted by the State Comprehensive Health Planning Agency.

Also, the Legislative Review Committee of the Advisory Council reviewed and recommended action on numerous health-related bills, many of which have already been ratified, e.g., amendment of physical therapy law, creation of a Commission on Aging, licensing and regulation of ambulance drivers, and many others.

#### **WE PUBLISHED THE FOLLOWING:**

*Health in South Carolina*, 1968. W. Hardy Wickwar, Professor of Political Science, University of South Carolina.

*Legal Aspects of Community Health Planning in South Carolina*, 1969. Published by this office resulting from a study on state and local health laws, administrative procedures, and health programs, as contracted with the law firm of Berry, Lightsey, Gibbes, and Bowers. Resulting from this study a number of new health laws have been enacted along with amendments to existing laws.

*Manual of Administrative Policies and Procedures and Information*, 1969.

*Selected Health Statistics for Comprehensive Health Planning in South Carolina*, 1969 and 1972 Edition.

*Selected Graphs—Health Data for Comprehensive Health Planning in South Carolina*, 1969 and 1972 Edition.

*Guide Number 1 for Comprehensive Health Planning in South Carolina*, 1970.

Resume of policies and procedures governing comprehensive health planning in South Carolina.

*Comprehensive Health Planning Task Force Reports: Services, Manpower Education, Resources, Facilities*, 1971-72.

Three articles dealing with comprehensive health planning, which appeared in the *Journal of the South Carolina Medical Association*, 1969.

*Directory of Personal Health Services in South Carolina*, 1972. Compiled by the Health

Problems and Needs Committee, Comprehensive Health Planning, in cooperation with the S. C. Department of Education.

*Levels of Health: Services, Genetics, Habits, Environment*, 1971.

*Guide Number 2 for Comprehensive Health Planning in South Carolina*, 1972.

#### **WE KEEP THE PUBLIC INFORMED**

A Comprehensive Health Planning newsletter is issued approximately monthly and distributed on a national basis to each State Comprehensive Health Planning Agency in the nation, to AP (Associated Press) and to UPI (United Press International), and to selected magazines such as Time and Newsweek. Throughout South Carolina, the newsletter is distributed to all newspapers, radio, and TV stations, all hospitals and other health-related institutions, to selected physicians and to anyone who requests it. Focal points in the Comprehensive Health Planning newsletter are activities relevant to both the state and areawide agencies and other items of interest to comprehensive health planning.

News releases on Comprehensive Health Planning activities and announcements of meetings are sent to all TV and radio stations and to all newspapers in the state.

Various brochures are also published periodically—keeping the public informed.

#### **AMONG THOSE WITH WHOM WE MAINTAIN CLOSE RELATIONSHIPS ARE:**

Appalachian Regional Development Program (Governmental)

South Carolina Regional Medical Program (Governmental)

Health and Welfare Council (voluntary)

Beaufort-Jasper Comprehensive Health Services (OEO)

The Fetter Center, Charleston (OEO)

Model Cities (Rock Hill and Spartanburg) (Governmental)

Rural Missions Project, Johns Island (OEO)

Governor's Office

United Community Services, Inc.,  
Charleston (voluntary)

Members of the S. C. Health Forum  
(voluntary)



Councils of Government (10)

All State and Voluntary Agencies  
involved in health

We have *REACHED* agreement about  
priorities for the health care of South Caro-  
linians.

We are now *WORKING* on implementation  
of statewide priorities. Will you help?

We are *MOVING* toward comprehensive —  
total — and preventive health care for the  
people of South Carolina.



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Columbia

## SCIENCE CLOSES IN ON MECHANISMS OF ARTHRITIS INFLAMMATION

New evidence that two body chemical substances with off-beat names may play a key role in arthritis was presented at a national medical meeting of The Arthritis Foundation at the Hilton Hotel in Pittsburgh on December 8.

Called prostaglandins and cyclic-AMP, they have become newsworthy lately partly because of their apparent potential for affecting the raging inflammation that is the key symptom in rheumatoid arthritis.

Drs. Dwight R. Robinson and Howard Smith from Harvard Medical School, Boston, and Dr. Lawrence Levine of Brandeis University, Waltham, Mass., reported on the effect of various anti-arthritis drugs on the amount of prostaglandins produced by synovial cells . . . cells that line joints.

The first prostaglandins were discovered 40 years ago in fluid obtained from the male reproductive tract, and thus were named with reference to the prostate gland. Only recently has it become evident that prostaglandins are a powerful, widely distributed family of biologically active compounds which participate in many fundamental processes.

Most important to arthritis researchers is the fact that prostaglandins seem to work both sides of the inflammation fence. Some prostaglandins — twelve are known so far — can induce inflammation and fever, while others can alleviate an on-going inflammatory process.

At a previous medical meeting of The Arthritis Foundation, it was reported that one type of prostaglandin can relieve arthritis in rats.

Dr. Robinson and his collaborators measured the level of prostaglandins produced by an organ culture of joint lining cells obtained during routine surgery of patients with rheumatoid arthritis. The

amount of prostaglandins produced by the cells varied when two standard anti-arthritis drugs were added to the cultures. The drugs were colchicine, the classic anti-gout agent, and indomethacin, a popular antiarthritis drug.

Dr. Robinson's research dovetails with that of two British research teams who previously reported that aspirin, the best known and most widely used anti-inflammation drug, also works by altering the prostaglandin level of the cells.

Dr. Robinson also measured the amount of prostaglandins present in the synovial fluid obtained from patients suffering from inflammation due to rheumatic disease and to other causes. Excess synovial fluid is a frequent side-effect of arthritis.

Patients who received adequate amounts of anti-inflammatory medication (aspirin-type drugs or indomethacin) to control their arthritis had comparable amounts of prostaglandins in their joint fluid as patients with non-inflammatory disease (osteoarthritis) who were used as controls.

Arthritic patients who received no anti-inflammatory medication had much higher levels of prostaglandins. Prostaglandins are closely associated with cyclic-AMP, a substance that earned its discoverer Dr. E. W. Sutherland, the 1971 Nobel prize for physiology.

Cyclic-AMP is believed to be the body's secondary regulatory system, translating at the level of the cell the messages transmitted by the primary regulatory system, the hormones.

Or, to put it in another way, the hormones regulate gross, overall control at the organ level, while cyclic-AMP executes fine control at the level of the individual cell.

At the Arthritis Foundation's meeting, it was reported for the first time that



cyclic-AMP can retard laboratory-induced inflammation.

Drs. Rose L. Tse and Ronald Andrews, of the University of Pennsylvania in Philadelphia, used urate crystals to induce an arthritis-like joint inflammation in dogs. They reported that when they injected cyclic-AMP into the joints either before or together with the urate crystals, the effect was to retard the inflammatory response.

The amount of cyclic-AMP used to obtain these effects corresponded to the levels normally found in man.

Though cyclic-AMP may eventually be

used as an anti-arthritis drug, the importance of the experiments lies in the fact that they will help scientists to understand the sequence of events that precedes the inflammation which plays such an important role in arthritis. If and when these steps are finally understood, it may be possible to develop drugs that prevent inflammation from getting a foothold, or interrupt the process at a very early stage.

The research reports on prostaglandins and cyclic-AMP add two key bits of knowledge to the growing understanding of the mystery of arthritis.

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## PROJECT CONCERN FACT SHEET

**SCOPE AND OBJECTIVES:** Project Concern is a tax-exempt, non-sectarian, non-political organization established for the purpose of providing a full range of medical and dental assistance services to impoverished peoples abroad and in the United States. Since its inception eleven years ago by Dr. James W. Turpin, Project Concern has grown from one man's dream to an international health care agency which annually provides treatment to more than 500,000 persons. Treatment is in Hong Kong, South Vietnam, Mexico, and in three field project areas in the United States. Domestic projects include dental and medical facilities at Bisti, New Mexico at the eastern edge of the Navajo Reservation; in the Appalachian section of central Tennessee near Crossville; and at Mercedes, Texas. In addition to meeting immediate physical need, Project Concern has initiated a well-planned Medical Assistants educational program to train villagers in advanced emergency medical procedures and preventive health care practice. Graduate Village Medical Assistants are then encouraged to become a part of providing solutions to critical health needs in the various villages and hamlets in their areas of the country.

**HEADQUARTERS:** Project Concern's international headquarters is located at 3802 Houston Street, San Diego, California. Office facilities include a combination administration building and warehouse for donated pharmaceuticals and medical and dental supplies and equipment. The headquarters staff of 31 employees handles a heavy flow of correspondence, promotion processing, and decision-making duties to augment the field projects and increase their effectiveness.

**FIELD FACILITIES:** *Hong Kong, China*—Three medical and dental clinics treat an average of 7,400 patients monthly and in addition, an average of 635 laboratory procedures and 185 x-rays is performed in that highly populated project area.

*Vietnam*—A forty-eight-bed hospital at DaMpao and a forty-bed facility at Lien Hiep provide medical and dental treatment to members of the Montagnard tribe and other Vietnamese citizens. Approximately 2,400 patients are assisted monthly, some 1,650 laboratory procedures conducted and 40 x-ray examinations performed. A flourishing Medical Assistants educational

program is producing qualified citizens to initiate health education programs, relate the importance of hygiene, and provide primary emergency medical procedures including child delivery at the local level in their respective communities.

*Mexico*—A medical and dental facility known as Casa de Todos located in the canyon area west of downtown Tijuana provides assistance to some 2,500 patients monthly from the surrounding impoverished areas. A day school for 300 youngsters in grades one through six provide educational opportunities not otherwise available to these children.

*Hospital Materno-Infantil*—This modern 54-bed pediatrics and maternity facility in Tijuana will greatly increase the case-load capability of our Mexico program. A modern surgery, expanded examination areas, a more complete pharmacy, and modern space and equipment will provide Project Concern physicians and visiting specialists the ability to perform complex surgical procedures and increase the chances of successful patient care.

*Bisti, New Mexico*—This medical dental clinic is located at the eastern edge of the Navajo Reservation and provides health care assistance to some 220 Indians monthly. While it is remotely located, the clinic is providing service on a day-to-day basis which was heretofore unavailable for these low-income Americans.

*Appalachia, Tennessee*—Mobile dental and medical clinics provide professional assistance to patients in isolated sections of central Tennessee. The program, established in 1968, is assisting nearly 700 medical and 390 dental patients monthly. Dr. Turpin, the organization's founder, and his physician-wife Mollie are in day-to-day contact with the hill people and their special physical needs.

**EXPLORATORY PROGRAMS:** In early January, 1973, Project Concern obtained a signed contract from the Imperial Ethiopian Government to provide medical services in an existing hospital in that country. The program will be geared to

corrective and preventive medicine and also provide Village Medical Assistants educational training. Also under consideration is a medical and dental tutorial program in Trinidad which would prepare students from Central and South America to pass on to their home areas the essentials of medical and dental health. A signed contract has been obtained with the health officials of Indonesia and will enable Project Concern to initiate needed health care on the island of Bali. Start-up of the facility is projected for October, 1973.

**YOUTH INVOLVEMENT:** The Walk for Mankind, Project Concern's major fundraising vehicle, was begun in 1969 by a local group in Santa Rosa, California as a way to get youth more deeply involved in helping others. Not only were these youth responsible for obtaining sponsors at a specified sum per mile, but also for walking as far as they could in an effort to raise as much money as possible for the organization's health care effort. Today nearly 200 "Walks for Mankind" are conducted across the United States. Portions of the funds raised are left in the individual communities in which the Walks were held to be designated to local charities and service agencies.

As an outgrowth of the Walk for Mankind, a youth-oriented program called "Adventures in Concern" seeks to provide additional opportunities for youth who have been involved in the "Walks" and wish to become involved in community betterment activities on behalf of the less fortunate. Through a highly organized and supervised activity schedule, these youth were successful in building seven community centers and other project site facilities across the country, and an animal barn at Camp Virginia Jaycee (for retarded and handicapped children) during the summer of 1972. An expanded "at home" work program will be emphasized during the 1973 summer months to draw attention to the needs of the youth's own communities.



## THE MONTH IN WASHINGTON

The American Medical Association protested vigorously against President Nixon keeping physicians under federal regulation in Phase III of the economic controls program.

A largely voluntary set of wage-price controls was substituted for all segments of the nation's economy except food, health care activities, the construction industry, and interest and dividends.

John R. Kernodle, M. D., chairman of the AMA Board of Trustees, warned that such discriminatory treatment well could result in health care support personnel leaving the field. Physicians, he said, could not be expected to accept it.

"Controls are relaxed in other areas, yet the discrimination against physicians and some three million others who serve America's health needs is now even more sharply focused," Dr. Kernodle said in a statement. "A very real possibility exists that there will be a flight of allied, ancillary and support personnel from the health field, jeopardizing the quality of care being delivered."

Dr. Kernodle pointed out that, "even though the regulations as applied to health care were clearly discriminatory," the AMA had urged physicians to cooperate and they had done so with a result that their fees nationwide had increased by only 2.7 per cent since August, 1971, when Phase I began. This compared with 4.3 per cent for the consumer price index, 6.2 per cent for a semi-private hospital room, and 14 per cent for legal services.

Noting that controls never were imposed on lawyers or other self-employed professionals, he said that physicians now might have to reconsider their attitude of cooperation.

"Since its inception, we in medicine have made every effort to cooperate with the government's program," Dr. Kernodle said. "While the Lords of Labor walked

out, we remained in the program and tried to make it work in the public interest. The results speak for themselves.

"We have received very little cooperation in return. . .

"Thirteen months ago, we urged physician compliance. In light of the . . . record, we shall now have to reconsider that advice."

Dr. Kernodle later took the AMA protest directly to President Nixon in a letter. It follows:

Dear Mr. President:

The American Medical Association has applauded your Administration's efforts to stabilize prices and wages for the economy. The Association has supported the overall objectives of the Economic Stabilization Program and actively cooperated with the Cost of Living Council through the Health Services Industry Committee in the application of price controls on physicians' fees.

A look at the physician component of the Consumer Price Index gives an example of the effect that "voluntary compliance" can have in curbing inflation. As a result of this Association's activities, physicians' fees rose only 1.7% under Phase II. This constitutes one-third the rate of increases prior to the Economic Stabilization Program. In this respect, we have surpassed the original expectations of the Cost of Living Council, which called for halving the inflationary rates prior to Phase I.

In view of our demonstrated success during the past year, you can imagine our dismay at the announcement of plans for Phase III. Although most of the economy is now expected to "voluntarily" adhere to the general guidelines of the Cost of Living Council, the medical profession has been placed under mandatory regulations. Indeed, the medical profession has once again been singled out under special con-



trols. The physicians of America will not accept such discriminatory treatment. This profession must not become the victim of efforts to curb inflation in the more expensive components of the health care industry, which due to their internal financial structure have been unable to decelerate increases in their prices.

The record of the past year clearly demonstrates that physicians are able to effectively control their fees through voluntary action. The record of the past year is equally clear that physicians' fees have not been an inflationary factor in health care costs. We, therefore, request that the medical profession be exempt from special regulations under Phase III, and respectfully request an early opportunity to visit with you on this and other matters of critical importance to the nation and the medical profession.

\*\*\*\*

Some 126 senators and congressmen, including Senator Thurmond and Representative Spence of South Carolina have introduced an improved and expanded version of the American Medical Association backed Mediredit bill for national health insurance.

Based on the principle of using tax credits to spur the purchase of comprehensive health insurance for all Americans, the Mediredit proposal has four chief bipartisan sponsors — Sens. Vance Hartke (D-Ind.) and Clifford Hansen (R-Wyo.), both of the Senate Finance Committee, and Reps. Richard Fulton (D-Tenn.) and Joel Broyhill (R-Va.), both of the House Ways and Means Committee.

Russell B. Roth, M. D., AMA's president-elect, joined the chief sponsors of the proposed legislation after its introduction into the Congress at a Capitol Hill press conference and detailed the new provisions of Mediredit 1973 which include dental care for children, emergency dental care for all ages, and improved home health services.

Dr. Roth said that the new Mediredit proposal should cost about \$12.1 billion, approximately the same as last year's bill.

He pointed out in explanation, however, that while new benefits have been added to the 1973 version, certain modifications had been made to the new bill's deductible and coinsurance features.

The Mediredit bill is a three-pronged approach to providing health insurance protection, according to Dr. Roth. The proposal would:

- pay the full cost of health insurance for those too poor to buy their own,
- help those who can afford to pay a part of their health insurance cost. The less they can afford to pay, the more the government would pay,
- see to it that no American would have to bankrupt himself because of a catastrophic illness.

On the subject of the catastrophic provisions of the bill, Hartke said:

"I have been appalled, as have most of us, by the medical horror stories that have been brought to our attention. Hardly a week passes without news of yet another family pauperized by catastrophic illness. . .

"Under Mediredit, the tragedy of catastrophic illness would no longer be worsened by the threat—or the actuality—of financial catastrophe. No American family would ever gain face the prospect of losing its savings, or its home, or its solvency because of health or medical bills."

Broyhill compared the Mediredit bill with other national health insurance proposals in the Congress.

"According to a report prepared for the House Ways and Means Committee during the last session, the Kennedy-Griffiths proposal would have cost the taxpayers a staggering \$91 billion a year," he said. "This would have meant that health alone took up about one-third of the entire Federal budget. . .

"Rich or poor, everyone under this proposal would have Uncle Sam pay all or most of his health care bill every year.

"The Mediredit proposal, on the other hand, is designed to spread the cost of medical and health care fairly and equi-

tably over the population on the basis of each American's ability to pay."

Stating that Medigredit is designed to solve the most immediate and pressing problems of the nation's health care system, Hansen emphasized that the AMA plan would "unlock the financial doors that bar many Americans from high quality medical care . . . stress preventive care — annual check-ups, out-of-hospital diagnostic services, well baby care, dental care for children, and home health services . . . provide psychiatric care without limit . . ."

Predicting that Medigredit would wind up with 200 sponsors in the 93rd Congress . . . 25 more than in the 92nd . . . Fulton noted that a third of the sponsors were Democrats, which establishes the AMA-backed bill as the national health insurance proposal with the most bipartisan support.

"What this bill's sponsors are endorsing," Congressman Fulton said, "is an approach to the problem of financing health care. What we are all saying, I think, is that we do not believe that the federal government can — or should — assume the entire burden by itself; that we should build on what we have instead of junking it and starting out again from scratch; and that the government role should be confined to that of helping those who need help . . ."

\*\*\*\*

President Nixon plans to end the 26-year-old Hill-Burton program of federal grants for hospital construction and the regional medical program. His fiscal 1974 budget calls for cutbacks in programs for community health centers, children's mental health and alcoholism.

Under the budget, medicare patients would have to pay an additional estimated \$1.2 billion of their hospital and medical bills in the next 18 months.

Aside from medicare outlays of \$12.6 billion, the federal budget for health — most of it under the Department of Health, Education and Welfare—calls for expenditures of \$9.1 billion in the 12

months, an increase of \$700 million over the current fiscal year which ends June 30.

Some National Institutes of Health research programs would be cut back but spending on cancer would climb \$91 million to \$445 million, and outlays on heart and lung diseases would increase \$28 million, to \$250 million. Special emphasis would be placed on those types of cancer that cause the highest mortality—lung, breast, large bowel, prostate, bladder and pancreas. Heart research would focus on preventing arteriosclerosis and hypertension.

The NIH program of support for training of research scientists—now \$150 million a year—would be discontinued. The federal government also would reduce its support for training nurses, veterinarians, optometrists, podiatrists, pharmacists and public health personnel. Federal support would be concentrated on training of physicians and dentists.

President Nixon's plans for cutbacks in some health expenditures were foreshadowed by two vetoes of HEW appropriation bills last year.

"My strategy for health in the 1970s stresses a new federal role and basic reforms to assure that economical, medically appropriate health services are available when needed," he said in his budget message.

An HEW official described the cutbacks as "a conscious decision to identify those programs that have fulfilled their purposes already or are unable to." HEW officials said the regional medical program, which initially was designed to combat heart disease, cancer and strokes, never achieved its goal of providing better planning of health resources locally or speeding research knowledge into therapy. Support would be continued for the 515 centers established under the nine-year-old community mental health program but funds would not be provided to expand the number to the original goal of 2,000.

In the medicare program, the Administration is beginning to put into effect



non-legislative reforms that are estimated to save the government \$342 million during the remainder of this fiscal year. The President said he will ask Congress for authority to shift \$600 million a year in charges to medicare patients.

The combined effect of the legislative proposals and administrative actions would be a net savings to the federal government in fiscal year 1974 of \$849 million, according to the proposed budget for the Department of Health, Education, and Welfare.

Effective January 1, 1974, if Congress agrees:

—Those who are hospitalized would have to pay the first day's charge for room and board and 10 per cent of the charges for all hospital services thereafter. As it is now, a medicare patient pays \$72 — the national average cost of one day in a hospital by a medicare beneficiary — for the first day of hospitalization and nothing more until the 61st day when he begins paying \$18 a day toward his charges.

A medicare spokesman said that for a patient hospitalized 13 days, the average for beneficiaries, the cost could increase from \$72 to a minimum of \$158.40. About five million disabled or aged 65 or older will be hospitalized under medicare during the next fiscal year.

—Under medicare Part B, the voluntary doctor insurance that will cover 22.5 million persons next year, the patient would pay the first \$85 of his doctor bills and 25 per cent of the remainder. He now pays a \$60 deductible and 20 per cent of subsequent charges. For a patient with a \$500 doctor bill, his share of the cost would increase from \$148 to \$188.75. About 11.6 million beneficiaries will receive medical care during the next fiscal year.

The Nixon Administration plans to let the draft law lapse June 30 for physicians and dentists as well as general military personnel.

In announcing in late January that no more draftees would be called up for military service, outgoing Defense Secretary

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Melvin R. Laird urged that Congress approve pay incentives for military doctors, dentists, nurses and other health personnel "so that they also can be put on a volunteer basis." This led some to infer that physicians and other health personnel might be drafted before expiration of the draft law.

But the defense department later gave assurance that it was not planned to call up any more physicians, that Laird only was emphasizing the importance of the pay incentives.

The draft call for physicians was for 1600 in late 1972. There now are about 14,000 medical personnel in military service.

—DM—

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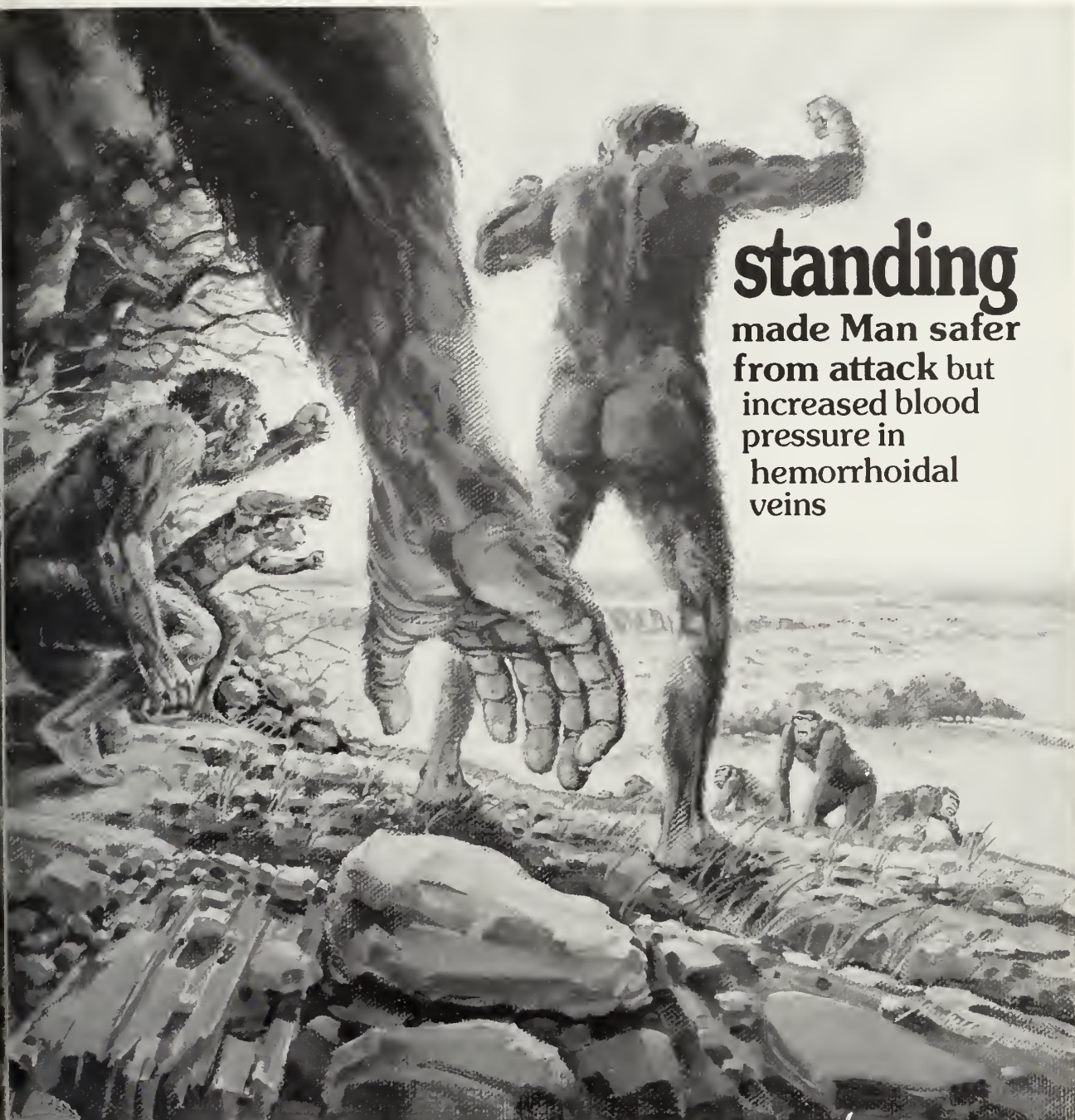
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**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debili-

tated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or over-sedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the

elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally served at the lower dosage ranges. In few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased or decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during prolonged therapy.

**Supplied:** Librium® capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.



Roche Laboratories  
Division of Hoffmann-La Roche  
Nutley, N.J. 07110



# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

TOXOPLASMOSIS

AUTOPSY

SCRMP

ANNUAL MEETING, 1973

Cancer Topic

E 69

APRIL, 1973

NUMBER 4

## Announcing . . . **U-100 Iletin<sup>®</sup>** (Insulin, Lilly) (100 units of Insulin per cc.)

This is a concentration suitable for most Insulin-dependent diabetics.

U-100 Iletin promises significant patient benefits from standardized, simplified, and convenient Insulin therapy. It is available in six formulations.

Note: A U-100 syringe must be used with U-100 Iletin.



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**Leadership in Diabetes Research  
for Half a Century**

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Additional information  
available to the profession on request.



Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counseling



and a few may need counseling  
*and* the psychotropic action of Valium® (diazepam).



Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs or, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect.

**Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.

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Valium®  
(diazepam)

To help you manage excessive psychic tension



# Pinworm therapy is often a family affair



**Contraindications:** History of hypersensitivity to thiabendazole.

**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.

**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction,

patients should be carefully monitored.

**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live *Ascaris* in the mouth and nose. Hypersensitivity reactions

# A New Dosage Form:

## Chewable Tablets 500 mg Mintezol® (THIABENDAZOLE | MSD)



so easy to take  
everyone in the family  
can keep to the  
regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.  
**Supplied:** Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 cc, in bottles of 120 cc.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

### INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.

*The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).*

MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.

The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days.  This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

\*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

# The Journal of The SOUTH CAROLINA Medical Association

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### Contributions of Original Articles

Mailing address—Edw. E. Kimbrough, M.D., Editor. 2709 Laurel Street, Columbia, S. C. 29204.

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

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In acute rheumatoid arthritis consider Tandearil. The anti-inflammatory action of Tandearil quickly helps reduce heat, pain, swelling, and stiffness. Results are usually seen in 3 or 4 days. Try it for a week when the symptoms defy aspirin control.

Remember that Tandearil is not a simple analgesic. It should not be used on patients responding to routine therapy. Before using, please read the prescribing information. It's summarized below.

## Tandearil® helps take the heat off oxyphenbutazone NF Geigy

Tablets of 100 mg.

**Important Note:** This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

**Indications:** Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

**Contraindications:** Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anti-coagulant therapy.

**Warnings:** Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against po-

tential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

**Precautions:** The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

**Adverse Reactions:** This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia,

gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdose, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement. (B)98-146-800-F (10/71)

For complete details, including dosage, please see full prescribing information.

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Ardley, New York 10502

# more than sleep

YOUR CHOICE OF SLEEP MEDICATION  
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Chronic tolerance studies have confirmed the relative safety of Dalmane (flurazepam HCl); no depression of cardiac or respiratory function was noted in patients administered recommended or higher doses for as long as 90 consecutive nights.

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No sleep medication has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patients given one 30-mg capsule of Dalmane (flurazepam HCl) at bedtime, on average: fell asleep within 17 minutes, had fewer nighttime awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to repeat dosage during the night.

## Sleep with consistency— no waning of therapeutic effectiveness

Over multiple nights of therapy, no waning of drug effectiveness was noted. There was consequently no need to increase dosage during the study periods. It stands to reason that the fewer repeat or incremental doses needed to sustain sleep, the lower the total cost of the sleep medication. Consistent effectiveness is the measure of Dalmane (flurazepam HCl) economy.

When your evaluation of insomnia indicates the need for a sleep medication, consider Dalmane—a single entity nonnarcotic, nonbarbiturate agent proved effective and relatively safe for relief of insomnia.

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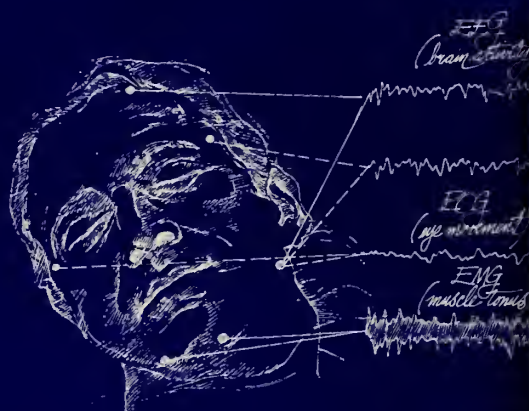
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## When restful sleep is indicated

One 30-mg capsule *h.s.*—usual adult dosage.  
One 15-mg capsule *h.s.*—initial dosage  
for elderly or debilitated patients.

ROCHE

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Division of Hoffmann-La Roche Inc.  
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Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or

recommended.

**Contraindications:** Known hypersensitivity to flurazepam HCl.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years

of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effect. Employ usual precautions in patients who are severely depressed, or with





nt depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during prolonged therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia, falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported.

Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech,

confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients.

*Elderly or debilitated patients:* 15 mg initially until response is determined. **Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.



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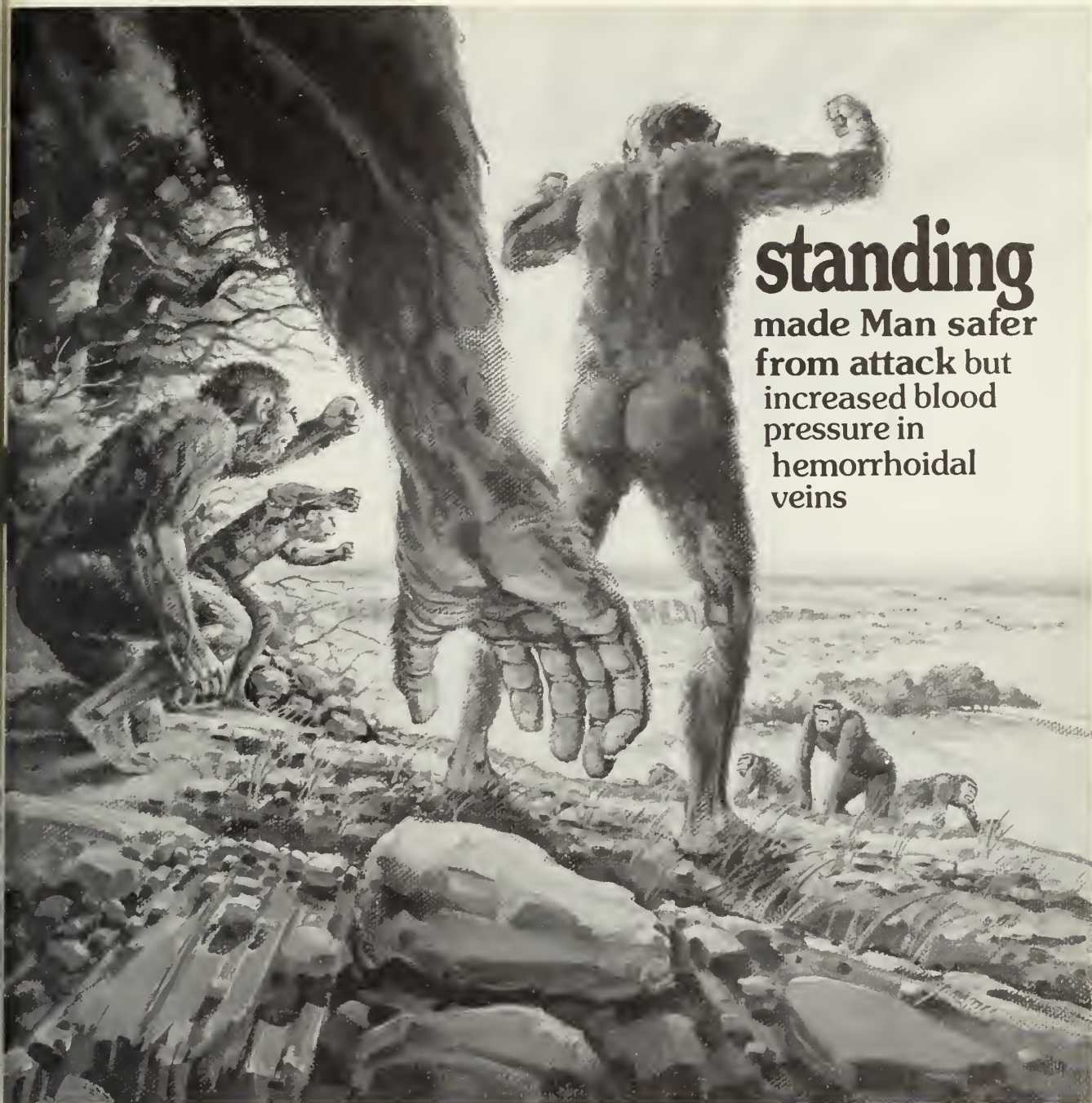


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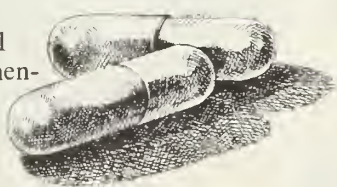




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## **Helps reduce anxiety-related G.I. symptoms**

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## **Patient-oriented dosage — up to 8 capsules daily in divided doses**

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Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**Before prescribing, please consult complete product information, a summary of which follows:**

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**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.


**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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### TOXOPLASMOSIS, THE LABORATORY AND YOU\*

G. Thomas Moore, Jr., Dr. P.H. \*\* and  
Hilla Sheriff, M.D., M.P.H. \*\*\*  
South Carolina State Board of Health  
Columbia, South Carolina.

Toxoplasmosis, a disease caused by infection with the protozoan parasite *Toxoplasma gondii*, has recently received renewed interest from the medical professions. The increased concern was engendered by the discovery of a new mode of transmission - the domestic cat - and the subsequent dramatization in the public press of the dangers from this source, especially to the human fetus. It has now been shown conclusively that a cat which is infected with *Toxoplasma gondii* can excrete *Toxoplasma* oocysts, a stage in the heretofore unknown life cycle of the parasite, which become infective within 3 days under proper conditions of temperature and moisture. Prior to the discovery of this new route of infection, the only probable means of acquiring the disease appeared to be the ingestion of raw or undercooked meat which contained the parasites.

The disease toxoplasmosis is usually divided into two forms - *congenital* and *acquired*. When the disease is contracted *in utero*, it is designated "congenital toxo-

plasmosis", whereas any infections occurring after birth are called "acquired" cases. The latter form usually occurs as a benign lymphadenopathy in children or adults, accompanied by chills, fever and fatigue. When these symptoms are present the disease must be differentiated from infectious mononucleosis. Some cases, however, simulate Rocky Mountain spotted fever, with the typical rash, high fever, atypical pneumonia with interstitial pneumonitis and sometimes a slight meningo-encephalitis.

Toxoplasmosis is usually diagnosed on the basis of serological tests. Although the most definitive laboratory diagnosis is made when *Toxoplasma gondii* is isolated from the patient who at the same time shows serological evidence of the disease, isolation usually is not attempted since the parasites are frequently found in tissues difficult to biopsy, such as brain or heart. Also in cases such as immunologically suppressed patients or those with neoplastic disease, the time required for isolation might be too long.

Of the major serological tests for toxoplasmosis employed today, the complement fixation (CF) procedure was the first to appear. It was introduced by Warren and Sabin in 1942, and six years later

\* Portions of this paper were presented by Dr. Sheriff at the meeting of the 13th Congress of Medical Women International Association, Paris, France September 5, 1972.

\*\* Assistant Chief, Bureau of Laboratories

\*\*\* Assistant State Health Officer

was followed by the methylene blue dye (MBD) test developed by Sabin and Feldman. The latter test soon became the most widely accepted serological tool for the diagnosis of toxoplasmosis; but, even though it is still recognized by many as a valuable diagnostic aid, technical difficulties and other problems inherent in the procedure brought about the development of other methods, such as the indirect hemagglutination test (IHA) and the newer indirect fluorescent antibody (IFA) test.

The IFA test is performed at the Bureau of Laboratories of the S. C. State Board of Health, and was chosen over the other tests for several reasons. Though sensitive and specific, the MBD test requires the tedious counting of live, virulent parasites, and reproducibility is often poor. The CF test has limited value since the antibody it detects rises later and disappears sooner than that detected by the others, lasting only about three weeks. In addition, IHA antibody arises late in the disease, making this test of questionable value in suspected acute cases of toxoplasmosis. The IFA test, on the other hand, is as sensitive and specific as the MBD test and detects antibody early in toxoplasmosis. The procedure for this test is basically the same as in other indirect fluorescent antibody tests. The antigen (*Toxoplasma* organisms), which is fixed on glass slides, is first exposed to the patient's serum and any *Toxoplasma* antibodies which are present attach to the parasites. The second step consists of the application of an antibody which has been prepared against human globulin and then conjugated with a fluorescent dye. If in the first step *Toxoplasma* antibody combined with the antigen, the antibody in the second step will attach to the antibody from the first step and the organisms will fluoresce under the ultraviolet light.

A high degree of reproducibility is one significant advantage which the IFA test has over the dye test. One study showed

98% reproducibility in the indirect fluorescent antibody test within one plus or minus four-fold dilution. Another important aspect of the IFA test is that it uses a non-viable antigen. The advantages from this are twofold: (1) danger of laboratory infections are virtually eliminated and (2) the antigen can be stored in quantities for use as needed. Other advantages of this fluorescent technique are the sharp titer endpoints obtained, and the fact that it does not require the laborious task of counting organisms as in the dye test.

An extension of the IFA test which may prove to be invaluable in early diagnosis of toxoplasmosis is the IFA (IgM) test. This technique utilizes a conjugate specific for human IgM rather than whole human globulin. Thus, the globulin fraction which arises earliest in an infection is the one to be identified. It appears that the IFA (IgM) test may be useful in diagnosing acute acquired toxoplasmosis if only high titers (those above 1:100) are considered. Since IgM antibody may persist for several years after an acute infection, low titers may be a result of a previous infection and should not be considered significant. It is in the diagnosis of congenital toxoplasmosis, however, that the IFA (IgM) test may find its greatest value.

In the serology of congenital toxoplasmosis the problem is whether antibody detected in the infant's blood is of fetal or maternal origin. Although it will require more evaluation, the IFA (IgM) test can apparently differentiate maternal antibody from that produced by the infant. Antibody of the IgG class can pass the placental barrier, but under normal conditions IgM cannot. Thus, if *Toxoplasma* IgM is detected in the blood of a newborn, it most likely means that he has active toxoplasmosis. Investigators at the Center for Disease Control and other institutions are presently evaluating the IFA (IgM) test, and since it is still experimental, administration or withholding of therapy should not be based primarily

on the results obtained with this test. Also, if cord blood is used there is a possibility that during the trauma of birth, it may have become "contaminated" with maternal blood; therefore, cord blood should not be submitted for the IFA (IgM) examination.

As with any laboratory test, the results must be interpreted. A titer against *Toxoplasma* does not necessarily mean that toxoplasmosis is present, for one must consider among other things, the magnitude of the titer and whether it is stable or rising. Titers of 1:16 or greater in the IFA test are considered to be diagnostically significant, and titers from 1:16 to 1:64 indicate a past exposure to *Toxoplasma gondii*. A recent exposure and perhaps present involvement with *Toxoplasma* is suggested by titers of 1:256 or greater, although titers may be much lower in ocular toxoplasmosis, unless exacerbation occurs. One authority, however, does not feel that active toxoplasmosis is indicated by a high serum titer unless either a rise in antibody is demonstrated or signs of the disease are present.

In consequence of the recent discovery that *Toxoplasma* may be transmitted through the domestic cat, the Center for Disease Control has recommended that physicians consider serological testing of their pregnant patients for evidence of *Toxoplasma* infection. A low titer (1:16 - 1:64) in the IFA test would indicate the woman to be immune to *Toxoplasma* and therefore incapable of transmitting the disease to her unborn child. Higher titers, however, especially above 1:256, are strong evidence of a current or recent infection. In such instances, the woman should have a second serum specimen tested to determine whether her titer is rising significantly (four-fold or greater) - a clear indication of a currently active infection. Where a firm diagnosis is made, the physician may elect to treat the patient, bearing in mind the teratogenic propensities of the drugs, or may consider

abortion if the infection occurred in the first trimester, when the greatest damage to the fetus is most likely to occur.

If the serological test is negative for *Toxoplasma*, the woman should be cautioned not to eat raw or undercooked meats during her pregnancy nor to associate closely with cats. Especially, she should not be involved with the maintenance of a cat's litter box, for the infective oocysts are transmitted through the feces of the cat. If this is not practical, the safest alternative would be to empty the litter box daily, since the oocysts must incubate 1-3 days outside the cat to become infective. Thorough hand washing would also be advisable, since infection through oocysts is by ingestion.

Treatment for this disease consists of daily doses of pyrimethamine (Daraprim) plus trisulfapyrimidines, for a period of one month. As with all prolonged courses of sulfonamides, close medical supervision is indicated. In addition, folic acid often is given to offset the possibility that Daraprim might produce anemia.

Requests for the serological examination for toxoplasmosis should be submitted to the Bureau of Laboratories on Form #1329, accompanied by the specimen of whole, clotted blood. It is very important that a second specimen be submitted 10-14 days after the first, for the demonstration of a rise in antibody titer is the best serological evidence of active disease.

Where congenital toxoplasmosis is suspected and the regular IFA test is positive, the Bureau performs the IFA (IgM) test. Serum specimens must be submitted from both the infant and the mother. A positive IFA (IgM) test on an infant would indicate congenital toxoplasmosis.

In the final analysis, it is the physician who must make the diagnosis. He can best utilize the services of the laboratory in diagnosing toxoplasmosis, however, when he has a clear understanding of the capabilities and limitations of the serological tests for this disease.



## TOXOPLASMOSIS

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# AUTOPSY—WHAT, WHEN AND WHY

THE PUBLIC INFORMATION  
COMMITTEE OF THE SOUTH  
CAROLINA MEDICAL ASSOCIATION

The average person has little knowledge of the procedure and purpose of an autopsy when, as the responsible relative, he is faced with the request to give permission for a post mortem examination of the body of the deceased for the purpose of determining the cause of death. In some cases, such as when certain death is impending, the opportunity may present itself for the physician to inform the family that an autopsy will be advisable. This forestalls the element of surprise at the time of intense grief and makes possible an explanation and discussion under more favorable conditions. At the time of making the request, the physician reviews the course of the illness, stating the problems encountered in diagnosis and treatment. He explains what an autopsy entails and offers to answer questions which may occur to any member of the family at the time or subsequently. There is no financial consideration as there would be no charge by the hospital or the physician who makes the examination. Should an autopsy not be offered by the attending physician, the family should request one where the cause of death is in doubt and also where there is some question concerning decisions on their part in the management of the case.

For practical as well as scientific reasons the decision has to be made within a period of hours. Under the stress of grief and the urgent necessity of making plans for burial and attending to affairs attendant upon death, there is danger that the subject will not be given proper

consideration and that, as the result of preconceived ideas based upon lack of information and probable misconception, permission will not be granted; this appearing to be the easier course at the time. At a later date, upon thoughtful reflection, this decision may be sincerely regretted should information about the cause of death be requested by inquiring relatives or be desired for family records, insurance or other purposes.

Once the permission has been properly signed, the autopsy is performed at the hospital or the undertaking establishment by a pathologist, who is a specialist in this branch of medicine. When possible, the physician is present. He advises the pathologist of the problems which confronted the clinicians and tries to correlate the course of disease and the laboratory examinations with the findings at the autopsy. Care is taken not to disfigure the body or to interfere with its preparation for burial. When microscopic and other laboratory examinations have been completed, the pathologist compiles his report and renders a copy to the physician, who in turn informs the responsible relative of the findings. Except in cases required by law, the autopsy is strictly a private matter between the responsible relative and the attending physician.

The autopsy constitutes one of the most valuable means of advancing medical knowledge. It serves as a source of information which cannot be obtained in any other way. The autopsy rate is an important factor in the accreditation of

## AUTOPSY

hospitals by national standards and in approval of them for intern and residency training as well as for other educational programs.

The autopsy is of particular value where the patient has been under hospital observation prior to death. It makes possible the evaluation of x-ray films and other laboratory examinations and the effect of treatment by drugs, surgery, radiation and other modalities. In surgical cases it is often the only means of determining the technical success or failure of the operation and the presence of complications and their significance in the fatal outcome. In the long term study of various diseases the autopsy is of inestimable value in determining their natural course. This applies particularly to malignancy and cardiovascular disease, for the study of which large sums have been appropriated by the federal government. While the autopsy does not determine the

cause of death in some cases, even in these it is of value from the standpoint of ruling out conditions which otherwise would have to be considered.

As the public becomes better informed about the procedure and purposes of the autopsy, the idea of the post-mortem examination will be more generally accepted, resulting in the autopsy becoming more available and accordingly increasing its value as a means of advancing the science of medicine.

At the same time there will be more generally recognized the value of the autopsy from the personal aspect of the family. A feeling of relief results from clearing up some doubts and uncertainties which had been a source of concern during the course of the illness. They gain some comfort in the knowledge that future patients may derive benefit from it.





## **SOUTH CAROLINA REGIONAL MEDICAL PROGRAM**

**VINCE MOSELEY, M.D.**  
Coordinator, South Carolina

### **SOME THOUGHTS ON THE PHASING OUT OF THE S. C. REGIONAL MEDICAL PROGRAM AND A REPORT OF F. Y. 1972-1973 ACTIVITIES**

#### **A National Crisis in Human Services and Resources Development?**

The Hon. Elliot L. Richardson, then Secretary of HEW, delivered a report on January 18, 1973 as an elaboration to a previous report of January 1972 entitled "Responsibility and Responsiveness," in which he provides a perspective and a plan for remediation of what he believes is a developing crisis in human services and human resource development, in which areas he is of the opinion that there are elements building up which possess the capability of creating a crisis of such proportions that it may challenge the fundamental capacity of our society to govern itself.

The areas in which crisis-generating tensions are being built up, he believes, are by such causes as "promises beyond performance capacity," the multiplication of centrally planned services to a degree beyond control by government or citizens, and a loss of confidence in institutional and public leadership. Mr. Richardson also believes that our prophets of high hope of the 60's have been found to be intellectually barren and in their continued public roles are unable to progress beyond conceptual frameworks that are either mostly unworkable or of unsatisfactory performance, and accompanied by repetitions of dearly held cliché hypotheses long proved unsound.

The "performance promise" gap has spiraled with budgetary spirals, and in

HEW alone 33 per cent of the total Federal budget is now consumed as compared to 7.5 per cent in 1954.

New programs have often produced only more press releases despite the recognized disparities that exist between identified health needs and programs supported. Equity has not been looked for and true equality in the utilization of scarce resources is impossible financially or revenue-wise.

Mr. Richardson is dubious of the value of further centralized bureaus and studies, and quotes the late Mr. Justice Brandeis of the Supreme Court, "Experience should teach us to be most on our guard when Government's purposes are beneficent. The greatest dangers to liberty lurk in insidious encroachment by men of zeal, well meaning but without understanding." Also Thoreau is quoted, "If I knew for certainty that a man was coming to my house with the conscious design of doing me good, I should run for my life."

Our HEW centralized colossal systems provide support for such expressions of skepticism, yet it is recognized that our society does and will continue to require public responsibility and support in the health, education and welfare areas of social concerns. What is needed is a different level of approval for social problem solving. Mr. Richardson believes that remedial action in three areas will be help-

ful in making programs work in the realm of the priorities determined at the working level.

The areas are: (1) financial assistance where needed by individuals or families to procure services rather than to provide by government agency for uniform benefits and services to individuals or families; (2) financial assistance to states, for state programs with some priority guidelines from centralized resources but not programs centrally organized, administered and guided. Financing at the state level by revenue sharing, he believes, will permit not only consolidation of a wide variety of programs in the areas of health and education, but will permit local and state selectivity of support and utilization of Federal, state, and local funds more appropriately to local needs. Health revenue sharing funds and allied services are ways by which local interchange of funds can be developed so as not to require a different source of support for different ages, sexes, ethnic groups, etc. It is also believed that this will increase efficiency, flexibility and economy. (3) Lastly, closing the performance gap of categorically-directed programs it is believed will be also accomplished by funding towards a broader approach, with problem-solving efforts being directed to critical manpower shortages, inadequate institutional services, and inappropriate distribution of manpower and services rather than disease targets per se.

Along with these approaches in fund expenditures there are also needed the application of research advances and the application of newer technologies for communications information, consultative and supportive services as additional gap closure activities.

The idea of revenue sharing is one of the ideas most pushed by the Nixon Administration. As recently expressed by M. S. Forbes, Jr. in an editorial in *Forbes Magazine*, there are weaknesses and outcomes which are not to be as miraculous as some of the rhetoric of announcement suggests. To quote Mr. Forbes at length, he states:

"Why is there such a need for such a program (revenue sharing)? The answer was best put not long ago by then—Secretary of Health, Education and Welfare Elliot L. Richardson: 'At issue is our national response to the . . . seemingly inescapable growth of centralized government and the concomitant submergency of the individual, the community and the states to Washington-based authority. At stake is nothing less than the future of the individual and of individual liberty.'

"One way to thwart this threat to liberty is through revenue sharing. It is, says Richardson, 'a way of reversing the flow of power to Washington, to start it flowing back, in President Nixon's words, 'to the states, to the communities, and most important, to the people.'

"If local governments are strengthened, people should feel less alienated, less helpless.

"But if revenue sharing is indeed meant to achieve 'local, personalized autonomy' and save our liberty, it will have no more success than did social programs of the Sixties in ending poverty and saving our cities.

"Why?

"Because in all too many cases, powerful state, city and local governments were never hot houses of individual liberties in the first place. How sensitive to individual liberties (are) . . . political machines such as that of Frank Hague? . . . As to medium-sized cities or smallish communities? One need only read Sinclair Lewis' *Main Street* to get a flavor of . . . powerful local 'establishments.'

"Proponents like Mr. Richardson have yet to give a satisfactory answer as to how giving more money, more power to, say, New York City will make New Yorkers feel they have more 'personalized autonomy' or liberty.

"Revenue sharing has practical merit (per se) in helping . . . finance essential local services.

"But in restoring some vague 'paradise' lost? (or personal liberty)?

"Never."

The latter area of activity is what the South Carolina Regional Medical Program has been attempting to do since its operational beginning in August 1968 with project support and since March 1966 with staff studies and finding, i.e. broaden the categorical approach.

Unfortunately, the Secretary of HEW, the Office of Management and Budget, and the Executive Branch do not recognize that through the 56 RMP's now in operation there has been created the sort of consortium of professional, agency and citizen groups capable of working effectively as a

team in all three areas cited, along with other local agencies and individual professionals and members of the public, to accomplish what the Secretary sees as a need to deal with and meet many of the social problems in the three ways outlined by the Secretary in his paper.

Moreover, Secretary Richardson does not deal with another problem area, and that is lack of national policy in respect to health needs or the cooperation of the many groups other than HEW who are to varying degrees providing funds, services, guidance and funding by various mechanisms for a wide variety of health-related activities.

#### **WHAT HAS BEEN PREVIOUSLY STATED AS CENTRAL GOVERNMENT COORDINATION NEEDS**

It is well at this point to review in brief some aspects of a most significant study, "Federal Role in Health — 1970." This report relates to the problems created by lack of coordination and absence of clear guidelines and a national policy for health. This study report, Senate Report 809, a "Report of the Subcommittee on Executive Reorganization and Government Research of the Committee on Government Operations," was published April 30, 1970.

In this report it was pointed out that the federal government then maintained five separate and unrelated hospital and health delivery systems, i.e. those operated by the Department of Defense in which there were also three separate service operations, the VA Hospital System, the hospitals of the Indian Health Service, and the Public Health Service Hospitals and OEO Clinics. More recently, Experimental Health Delivery Systems, Neighborhood Health Services, and HMO's have been added to operational services, separately organized and operated without relation to other services supported by numerous grants in aid from a multiplicity of federal sources. None of these has any relation to a national policy or established priorities of effort, or as related to national goals or community established needs.

There are 24 different or separate

agencies or departments operating in funding health services. The evaluation of these services has not been determined in respect to effectiveness in improving health, nor have any of these interrelated or correlated their activities with the exception of some correlation between the Department of Defense and HEW.

However, in no sense has HEW been established as a lead or guiding agency, and even within HEW the Assistant Secretary for Health and Scientific Affairs is stated to have control of only 22 per cent of his total budget. Often decisions as to funding and the priorities chosen in respect to purpose of grant applicants are based on considerations other than identified health needs of significance, either locally or nationally. Costs likewise have not been effectively dealt with in respect to systems improvements or manpower problems, either in respect to short or long-term planning.

In this respect, Dr. James A. Shannon, in Senate Report 809, expressed the opinion that not only are the federal health programs fragmented and uncoordinated and unresponsive to local health needs, but that often their differences in administration as established by the sponsoring agencies, caused excessive confusion when operating in community settings, thus actually adding to health care problems rather than solving.

Slogans often replace goals, and thus add confusion. This compounds the problems of already difficult situations. The multiplicity of agencies administering such programs were multiplied during President Johnson's administration, when some 51 pieces of legislation containing some 400 discrete authorities were enacted.

It was the opinion of the staff quoting various areas of information gathered in writing the report that until central governmental coordination can be achieved, confusion will continue, and national health priorities will be difficult to assess and properly establish.

#### **REGIONAL MEDICAL PROGRAM'S ROLE**

At the state or community level, the 56



RMP's have established a pattern for sharing, regionalization and firm cooperative arrangements between the private health providers and services with the public providers and services. It is believed that the Regional Medical Programs Service can serve equally at the national level as a lead agency in this respect, and that this centralization along with a coordinated group of regional agencies, can achieve much toward the national utilization of funds to deal in a comprehensive way with the health problems and needs of this Nation, and thus insure improved economies of management and in the costs of services. Services are designed for established local needs, and not by the popularity of the cause presented, or those often not truly related to significant local health problems which often cannot be dealt with due to categorical or target population exclusiveness of grant awards.

**PRESENT PROGRAMS AND  
OBJECTIVES OF THE RMPS AND  
THE 56 RMP's AT THE LOCAL LEVEL**

**1. Programs**

Programs of comprehensive health care focused on the needs and entitlements of individuals and families wherever they live;

Standards and evaluative activities as a means of increasing the nation's capacity for delivering quality health services;

Activities designed to increase the scope and adequacy of balanced resources for the provision of comprehensive personal health services through demonstration of technical and systems improvements, and by extension of health manpower.

**2. RMP's Leadership**

Provides leadership and general direction for RMPS operations, including training and staff development;

Establishes program objectives and policies;

Coordinates and evaluates development and progress of the RMPS activities in the Regional Offices through liaison staff;

Provides liaison with other agencies;

Provides cooperation and involvement of local practitioners and health personnel, private and public.

**3. Information Services**

Develops and conducts an overall RMPS information program;

Provides staff advice on information matters, local and national;

Participates in the planning and development of service-information policies with special responsibility for interpretation to the public.

**4. Administration — National and Local Guidance**

Develops and implements management policies, procedures, and systems for local administration in a decentralized manner;

Provides guidance to financial management activities, including program policy interpretation in budget information.

**5. Program Planning and Evaluation —**

**Provides National and Local Staff**

Provides national and local staff for program planning, coordination, and evaluation, including the development of program alternatives and policy positions.

**6. Development of Systems**

Provides leadership in development and operation of long-range and operational planning systems, including preparation of annual and three-year plans and establishment of program goals;

Coordinates the development of evaluation programs;

Provides focus for legislative development and analysis;

Coordinates the development of and accomplishes the formal clearance of grant and program policy.

**7. Medical Care Standards — Now Being Developed**

Develops, evaluates, and recommends minimum standards for health care provided under Title XVIII (Medicare) and other assigned Federal reimbursement and support programs;

Identifies the need for new and revised standards to continually upgrade quality of health care;

Develops, evaluates, and recommends guidelines and procedural manuals for use by state agencies in licensure and certification processes;

Conducts training programs and other activities to improve licensure and certification performance;

Provides technical consultation to other federal programs, to Regional Office personnel, and to state and local health officials in health standards and policy;

Monitors state agency Medicare plans and operations.

### **8. RMP's Experimental Services**

Through its state level, RMP's can:

Promote the use of improved methods of health services organization, delivery and finance at the community level in urban and rural settings as well as in long-term care facilities and programs;

Stimulate interest in and knowledge of health services on the part of the community;

Promote studies of existing patterns of health services organization in specific communities to identify in services to people;

Encourage the design of systems of health service delivery to meet the communities' expectations and wishes; including emergency medical services and systems;

Promote the concept of coordinated local programming in order to assure maximum effectiveness from available resources;

Recommend allocation of funds to regions for funding of project grants for development and extension of health services;

Support the delivery of health services to groups with special needs, such as the rural and urban poor, the residents of sparsely populated areas, the migrant worker and the aged;

Develop, support, and evaluate innovative methods for organizing and financing health care services such as pre-payment and group practice;

Develop program policies for health services development project grants, including family and neighborhood health activities, and migrant health services.

Regional Medical Programs now have as a part of project development that each project will be phased into other support, either local public or private funds.

### **QUALITY EQUITY VERSUS EQUALITY OF LOW QUALITY**

With universal or general financing by the government, this will produce problems of equality of services versus equity in available services. We must have a mechanism to achieve equity of access and goals to achieve quality, and maintain this rather than reduce quality by mechanism which take only access and equality into consideration. Here may lie conflicts if the Federal and state level roles of program responsibility are not clearly defined.

### **ONLY AT THE LOCAL LEVEL CAN EQUITY AND QUALITY BE ACHIEVED**

The local level is the only area at which equity and quality can be achieved in full cooperation with local providers through regionalization and reprivatization. People must help themselves. Bureaus and committees may stimulate, provide leadership and some expertise, but in the final analysis, it is at the local level where effects occur, and in the area of health care at the very personal level of patient and physician as a single unit of trust and collaboration. The Federal level can and often should provide funds to expand facilities and resources, but here again, the Federal role is best served as leader, with the local role reserved for management.

### **TECHNICAL ASSISTANCE IS NEEDED AT LOCAL LEVEL FOR PLANNING AND EVALUATING**

As we move ahead, there must be a resource available to communities to improve planning capability, technical assistance, improved communications, to provide seed money for feasibility planning studies, to monitor progress and evaluate demonstration and trial activities. Some HSMHA agencies, and particularly Regional Medical Programs, have been serving in this way.

RMP activities can be expanded through existing program and supporting staffs so that equity and quality care can be achieved in SCRMP projects which are all jointly developed by local institutions and com-

munity-based practitioners or those in private practice in the community served.

### **HSMHA GOALS UPDATED**

If the major goals of the HSMHA of HEW are for individual, family, and community self sufficiency, and the reform of service institutions as stated by Dr. Vernon E. Wilson, then—Administrator of HSMHA of HEW, in an address at Dallas, Texas on October 30, 1972, at the Health Services Funding Workshop, then HSMHA wishes to vest the right to health care in the individual, not in an institution. Meantime, the public and private institutions must be made more critical of the consumer's needs and meet these through utilization to best advantage the resources of the pluralism of systems available and through the processes of reprivatization. Government should not try to do, but get people to do for themselves, through program leadership and stimulation.

The goals of non-dependency and institutional reform are to be carried out through pluralistic approaches and reprivatization, according to the philosophy now current in HSMHA and HEW, a policy inherent in RMP RAGS.

### **RMPs COOPERATES WITH A VARIETY OF GOVERNMENT AGENCIES**

Although health care concerns permeate the Federal establishment as parts of or appendages to a variety of programs and agencies, as in the military, VA, economic development agencies, employee benefits, welfare, manpower training, urban and rural development projects, there is no coordination or central guiding process for these scattered and semi-autonomous and independent activities. Some of these are financing programs designed within budgetary constraints to provide fully for a target or population group. Others are resource development programs, either for manpower and services or facilities, but here again there is no coordination between these. Over-financing may indeed create stresses by over-demand of services in short supply. Creating facilities without financing for operation likewise creates problems of a

different sort. To this point in time, governmental agency planning has not been coordinated at any level in planning or operation, except perhaps to a limited degree by the Regional Medical Programs as these have functioned and been guided by strong Regional Advisory Groups.

We know as we look ahead that some form of national health insurance will be provided, creating uniform financing. To prevent a crisis in services and facilities of worse degree than that created by Medicare and Medicaid requires better health planning and management for facilities and for program priorities in utilizing funds which will be available at state levels for revenue sharing, and sharing for funding of services. Philosophically this is to be done at a state level, and practically it is only at such a level that program planning and utilization to the best advantage of resources and facilities can be achieved and the process of reprivatization instituted.

### **THE ADMINISTRATION HAS FOUND NEED FOR DECENTRALIZATION OF HEALTH PROGRAMS**

The Allied Services Act and Revenue Sharing Act indicate areas of concern that the present Federal administration recognizes as significant steps towards decentralization of health services and other human services related to health.

### **RMP's ARE A PROTOTYPE FOR DECENTRALIZATION, REPRIVATIZATION AND SHARING**

RMP is and can be more fully developed from a prototype to a fully operational lead, or coordinating agency, to carry out these objectives locally in respect to organization, program development, operational, monitoring, evaluation and financial aids to increase support by various resources and the development of non-federal continuation funding. Utilization of the private resources available at the local level with cooperation between the non-governmental as well as governmental resources is crucial to any health care system or service. Voluntary cooperative participation with all elements in a community is likewise essential, both by



those who provide services as well as the actual or potential recipients. Innovations and changes will occur more efficiently with proper relationship based on understanding and interest rather than edict or legal directives.

# **RMP's REPRESENT EXCELLENT EXAMPLE FOR ENGAGING PRIVATE FUNDS AND SERVICES IN PROGRAMS**

The objections raised by some to RMP leadership, of excessive parochial attitudes, are offset by national goals within which region needs are interpreted. Even in areas where categorical emphasis in the past has been quite heavy in program and project design, improvements in health services and care spreading to wider ranges of patient needs have developed and continued. Improved relationships identifying CHP as a planning agency and RMP as an action agency have developed, in that RMP activities relate to project and program development designed to meet needs as identified in the area of health services and care as provided by public and private professional personnel, improving the existing health provider system through activities designed to increase accessibility and quality, and to ameliorate costs through projects related to education, demonstration, health manpower extension, and improved technology and communications.

## **WHAT HAVE THE 56 RMP'S ACCOMPLISHED NATIONWIDE AS A COMMUNITY-BASED PROCESS FOR COOPERATIVE ACTION?**

The RMP's are a decentralized national program working with local health provider systems with decisions made by a broad-based local citizen and professional advisory group. The RMP's have involved large numbers of volunteer citizens concerned about health problems of the nation. Almost 19,000 regular volunteers serve long hours, often at considerable personal financial sacrifice, to study and act upon health problems in a way that is best suited to local situations. RMP's regular voluntary advisory structure includes:

	Number	Per cent
Members of the Public	4,505	23.7
Doctors (M.D., D.O., D.D.S.)	6,920	36.5
Nurses and Allied Health	4,090	21.5
Health Administrators	3,469	18.3
<b>TOTAL</b>	<b>18,984</b>	<b>100.0</b>

Of this number, over 2,600 advisors are from minority population groups, a significant proportion compared to national averages.

RMP staffs are a unique and effective blend of the wide range of skills, training and experience necessary to move effectively toward solution of today's complex health problems. In 1972, composition of full and part-time staff of the 56 RMP's was as follows:

	Number	Per Cent
Doctors (M.D., D.O., D.D.S.)	1,691	18.8
Nurses and Allied Health	2,294	25.5
Social and Behavioral Sciences	2,434	27.1
Supporting Staff	2,569	28.6
<b>TOTAL</b>	<b>8,988</b>	<b>100.0</b>

Of this highly qualified and experienced staff, 1,617 persons were from minority population groups. Blacks accounted for 939 staff persons, a figure which is essentially parity representation when compared with national figures. Few other federal programs can make such claims.

## **SPECIAL PROGRESS REPORT OF RMP ACTIVITIES**

February 8, 1973

The following summary reports initial findings of a special progress report of the 56 Regional Medical Programs. The progress was analyzed for three alternate grant year periods beginning with FY 1970, and including program year 1972, and projected through FY 1973. Each RMP provided comparable data which serves as the basis for this report.

Measures of progress and assessment of impact is divided into four basic sections:

- Benefit to Consumers
- Benefit to Health Provider Community
- Community Based Process
- Resource Allocations

**TABLE 1. PEOPLE DIRECTLY SERVED BY RMPs: SUMMARY**

	1970	1972	1973
Primary Care	2,622,000	3,054,000	5,749,000
EMS	465,000	2,443,000	4,064,000
All Others	2,716,000	4,143,000	4,085,000
Totals	5,803,000	9,640,000	13,898,000

**I. Benefit to Consumers**

The RMP's have had a major impact in serving health needs of consumers.

**... People Directly Served**

While RMP's do not ordinarily provide direct health services, there are numerous instances where direct services are provided as part of a demonstration. Examples include: (A) persons screened in a multiphasic screening project; (B) patients treated by project staff of a demonstration unit for specialized cancer care, or (C) patients seen by a nurse practitioner or a neighborhood clinic supported by an RMP.

The above table summarizes people directly served in this manner.

Table 2 summarizes in further detail people directly served in the course of RMP activities. Important trends are the increase in persons served in primary and emergency care and the decrease of persons served in "heart disease", including coronary care. A projected resurgence of effort in hypertension indicates RMP's flexible posture to respond to opportunities to meet local needs.

**TABLE II. PEOPLE DIRECTLY SERVED BY RMPs BY PROGRAM CATEGORY**

	1970	1972	1973
Primary Care	2,622,000	3,054,000	5,749,000
Emergency	466,000	2,443,000	4,064,000
Heart Disease	1,126,000	1,086,000	656,000
Cancer	413,000	523,000	595,000
Stroke	140,000	348,000	280,000
Kidney	13,000	33,000	41,000
Hypertension	135,000	84,000	186,000
Pulmonary Disease	300,000	307,000	359,000
Health Services/Educational Activities Consortia & Other Shared Resources	588,000	1,762,000	1,968,000
Total Served	5,803,000	9,640,000	13,898,000

TABLE III. DISTRIBUTION OF SELECTED ACTIVITIES

	1970		1972		1973	
	\$	%	\$	%	\$	%
"New Manpower" Projects	7,106,000	9.4	10,970,000	12.6	13,678,000	11.7
"Quality Assurance" Projects	4,709,000	6.2	7,648,000	8.8	13,865,000	11.9
Heart Disease	14,035,000	18.6	8,424,000	9.7	16,462,000	14.1
Cancer	8,386,000	11.1	6,646,000	7.6	7,211,000	6.2
Stroke	7,028,000	9.3	4,805,000	5.5	4,500,000	3.9
Kidney	1,928,000	2.5	5,619,000	6.5	6,639,000	5.7
All Other Activities	32,383,000	43.0	42,937,000	49.0	54,399,000	47.0
Totals	75,575,000	100%	87,049,000	100%	116,754,000	100%

Total Number of projects started by the RMP which are continuing with local financing 1837

#### Resource allocations:

The RMP's have allocated their program resources (direct cost dollars) in four basic ways.

**More effective use of manpower** including new skill development, improved skills, sharing training resources with underserved areas, and coordination and improved utilization of health manpower training.

**Improved accessibility and availability of primary medical care** including new or improved services such as family health centers, free clinics, hospital based ambulatory care centers.

In response to a recognition of severe access problems to primary care in underserved areas, the RMP's have projected more than twice their resources to primary care programs (including EMS) in 1974 than in 1970 (approximately \$37 million projected in 1974, \$24 million in 1972, and \$12 million in 1970).

**Regionalization of secondary and tertiary (specialized) care**, including general institutional sharing of scarce resources such as radiation facilities, joint purchasing and direct categorical disease services in heart disease, cancer, stroke and others.

While percent of total dollars devoted to efforts of regionalization of secondary and tertiary care has diminished slightly, RMP's have actually increased the number of dollars invested in developing shared resources and regionalization of care in cancer, heart disease, and other categorical programs.

**Administrative Costs** are well within established guidelines. They show a substantial (50 per cent) decrease from 1970 to 1974. This trend reflects the fact that as RMPs continue to become more efficient organizations, more program staff time goes directly to service programs. Conclusion is that RMPs are well honed, efficient organizations, and have become increasingly so over the six-year period studied.



TABLE IV. DISTRIBUTION OF RMPs' RESOURCES

Function	1970		1972		1973	
	\$	%	\$	%	\$	%
More Effective Use of Manpower	24,163,000	32	24,790,000	29	30,930,000	27
Improve Accessibility & Availability of Primary Medical Care						
A. Primary	11,413,000	15	18,205,000	21	28,427,000	24
B. EMS	832,000	1	5,695,000	6	8,637,000	7
Regionalization of Secondary and Tertiary Care	24,039,000	32	23,257,000	27	26,675,000	23
Quality of Care Assurance	4,506,000	6	8,916,000	10	14,622,000	13
Administrative Costs	10,662,000	14	6,186,000	7	7,543,000	6
T O T A L	75,575,000	100	87,049,000	100	116,834,000	100

### SOUTH CAROLINA PLAN

A regionalization plan as developed for South Carolina can serve as an illustration of how the principles incorporated in the Allied Services concept can be immediately applied through an RMP mechanism at a state level that is now in being but which, if disassembled on 30 June 1973, as has been recently ordered by Executive decree, will need to be reassembled at some future time with much cost and effort.

### PRESENT SITUATION

Today it often seems that our service programs are unresponsive to the recipients' needs and wasteful of the taxpayers' money. A major reason is their extreme fragmentation. Rather than pulling many services together, our present system separates them into narrow and rigid categories. The father of a family is helped by one program, his daughter by another, and his elderly parents by a third. An individual goes to one place

for nutritional help, to another for health services, and still another for educational counseling. A community finds that it cannot transfer federal funds from one program area to another area in which needs are more pressing.

### PUBLIC CONCERN

The public has become increasingly concerned with these problems and is demanding that health care professionals and the governmental and private agencies address themselves to solutions. The State and the Nation are fortunate to have innumerable organizations with vast sums of money already active in this field. As ecology and health become more important political issues more funds are undoubtedly forthcoming. In many instances, however, because of lack of coordination and failure to communicate there is duplication of effort or lack of applications due to ignorance of resources.

## **CHANGE NEEDED**

We need a new approach to the support of resources needed by the professionals for the delivery of health services — one which is built around people and not around programs. We need to break through rigid categorical walls, to open up narrow bureaucratic compartments, coordinate related programs in an approach which relates to common problems and needs.

### **GOOD HEALTH AND WELL BEING FOR ALL PEOPLE SHOULD BE A PRIMARY GOAL OF ANY GOVERNMENT**

The State of South Carolina is not unique in having significant problems and deficiencies in its health care delivery system. Many of these deficiencies are well recognized along with the underlying causes. Others need further identification and closer scrutiny.

### **STATEWIDE ACTION NEEDED**

To obtain funds and to make maximum use of those currently available each state must:

- a. clearly identify its problems
- b. inventory its resources
- c. establish its goals and priorities
- d. evaluate its potential and list its deficiencies
- e. coordinate the efforts and assets of existing agencies and develop new health manpower and make innovative and regional use of that now available.

### **NEW OPPORTUNITY**

Under the coordination of activities approach as outlined in the Allied Services Act of 1972, federal health programs representing several billion dollars are to be coordinated. Monies will be allocated to the states in blocks, and once approved state and local officials will be authorized to transfer up to 25% of H.E.W. funds between programs included in the plan depending on priorities.

### **STRONG LEADERSHIP NECESSARY**

In view of these opportunities and with the resources now available, South Carolina can profit from a strong committee made up of individual agency members who have of

themselves appropriate stature, reasonable authority and autonomy and political impact. With their leadership and prestige, plans can be established for better utilization of the funds available for improving community health care. With broad representation local problems can be identified and dealt with in an orderly manner according to realistic priorities with emphasis on regionalization and resource sharing.

### **LIMITATIONS**

At this time no single agency staff in South Carolina is adequately structured to do all of the above. The innumerable governmental agencies i.e., federal, state, county and municipal plus the independent and private foundations of health resources all are to a degree restrained by their own charter and scope of authority.

### **SOLUTION**

The one existing body which most nearly meets the necessary requirements is the South Carolina Regional Medical Program. Through the Medical District Committees of the RMP and their committee relationships, in liaison with other agencies concerned with health care and serving as members representative of the Medical Districts and Community Health Sciences Committee of the RAG, the South Carolina Regional Medical Program and program staff is uniquely qualified to assume the leadership necessary for South Carolina to face the challenge of providing the Human Services demanded by the citizens of the State.

### **THE ROLE OF SCRMP**

There is a need for a statewide program to bring together a full community of effort in establishing regionalization of health care resources and to effectively recognize the present and future problems regarding the good health and well being of the people. In spite of the efforts of a large number of diverse health care agencies there is no corporate body which totally coordinates the planning and actions necessary for maximum use of existing resources. The SCRMP through its Regional Advisory Group and local committees does bring together representatives from most of the health planning

bodies. The Regional Advisory Group is structured to include members from the governmental health and education agencies, independent and private foundations, and members at large to assure sub-regional representation. SCRMP is a functioning, action-oriented consortium of providers, planners, and consumers, which is responsive to the health needs and solves the problems which individual groups and institutions cannot resolve when acting alone.

By this type of coordination, the prevention of expenditures without studied priority, unnecessary duplication of effort, the training of unneeded personnel, the excessive specialization, the cessation of dead-ending of occupational and career opportunities, the full regionalization of effort, the sharing of scarce resources and facilities, the overall inter-cooperation of a multitude of agencies, and the collaborative efforts of teamwork involving professional and non-professional health related groups can be achieved in a setting designed to provide for full collaboration of effort by divergent agencies without detracting from their specific and presently designed individual roles.

#### **THE PROBLEM OF PARA-MEDICAL AND ALLIED HEALTH ASSISTANCE**

A final advantage of an affiliation of agencies with needs for health manpower, its maldistribution, and continuing and in-service training for those currently employed or as practicing professionals in the health field, is that such programs can be structured with common bodies of knowledge related to health care and services, and can be developed for institutional needs, not for purely academic or professional society requirements, and by agreements training courses can be extended beyond basic training. Needs for advanced skills can be built as experience becomes evident for in-house or on-the-job extensions of knowledge. Basic knowledge of occupational skills and requirements needed to provide technical and other assistance to professionals could permit, with institutional licensing, each organization to develop its training programs

for staff advancement in various ways according to institutional needs, not as limiting registering and licensing boards.

#### **CAN CHP-A OR SCRMP ALONE, OR TOGETHER, PROVIDE FOR THIS AFFILIATIVE EFFORT?**

The question has been raised, and needs to be fully explored, as to whether the State Comprehensive Health Planning Advisory Council might not serve the proposed purpose as efficiently, and possibly more appropriately, than the South Carolina Regional Medical Program Committee. The CHP (a) or State Advisory Council serves primarily in an advisory capacity to the Executive Committee of the State Board of Health under its present organizational structure. The areawide or Comprehensive Health Planning CHP (b) Agencies, under the law, are each individually actually the responsible bodies for looking at needs and recommending plans and recommending for approval requests which relate to health services and facilities under the State Franchising Law.

The Medical Districts Committee and the representatives of the CHP (b) Agency Councils participate together by cross representation in each of the 10 planning districts, so that the Medical District Committee serves both at a State and local, or areawide, level within the South Carolina Regional Medical Program structure, and, in actuality, from a standpoint of organizational function, there is more significant relationship between this committee of the South Carolina Regional Medical Program and the areawide planning districts than exists between the State CHP (a) agencies and the CHP (b) agencies.

#### **THE SCRMP MEDICAL DISTRICTS AND COMMUNITY HEALTH SCIENCES COMMITTEE**

The committee members are representatives selected from:

- State Board of Health
- South Carolina Medical Association's Council and Foundation
- Health Insurance Providers
- S.C. Department of Vocational Rehabili-



tation

S.C. Department of Education  
 S.C. Department of Social Services  
 Technical education schools  
 S.C. Commission on Higher Education  
 Office of Comprehensive Health Planning, State Board of Health  
 Members from the public  
 South Carolina Hospital Association  
 South Carolina Regional Medical Program: Regional Advisory Group and Program Staff  
 Representative of Council of Voluntary Health Agencies of S.C.  
 Governor's Administrative Office  
 S.C. Department of Mental Health  
 S.C. Department of Mental Retardation  
 S.C. Nurses' Association  
 Representatives of allied health science schools  
 The Medical University of South Carolina  
 Each of the ten Medical Districts of the State (SCRMP and CHP (b) )

(Later appropriate legislative representatives should be added to this committee to provide further balance and authoritative deliberation.)

#### **REGIONALIZATION OF EFFORT BY INTERAGENCY COOPERATION**

This body serves to coordinate efforts for planning for manpower training, continuing education, program planning and development, systems analysis, provision of appropriate consultation in a variety of socio-economic as well as health areas, and for the development of experimental programs and the evaluation of these, and especially to serve as a body for program planning and the coordination of individual community efforts in a setting able to provide for an overall regional strategy for health services.

#### **UTILIZATION**

By making use of a sound and adequate data bank the major problem areas can be identified and goals and priorities established. This having been accomplished, then informed recommendations can be made regarding the modality and the additional

resources needed. Educational programs can be established and specifically designed to meet anticipated needs. Monies can be more widely used eliminating duplication. Regionalization of all manpower, facilities, equipment and additional requirements can be intelligently planned.

#### **EDUCATORS' ROLE**

By involvement of the Commission on Higher Education and State Board for Technical and Comprehensive Education it is possible to further utilize all educational resources including state institutions, community and private colleges, technical and general educational facilities.

#### **THE RESULT**

A strong and aggressive body cannot only upgrade the health care throughout the state but also assure opportunities for increasing the effectiveness of the present numbers of health care professionals and to expand their potential for advancement in services.

Through the RAG and Medical Districts Committee the expanded activities of the SCRMP program staff are directed towards coordination of manpower training, coordination of continuing education, program planning and development, systems analysis, provision of appropriate consultation in a variety of socio-economic areas needed in health planning, and for the development of demonstration or experimental programs and the evaluation of these, and especially to serve as an agency for assistance in program planning with individual community efforts to provide for an overall regional strategy.

#### **SPECIFIC AREAS OF CONCERN**

The initial efforts of SCRMP 1966-1970 were directed at speeding the flow of scientific knowledge to health providers in connection with heart disease, cancer, stroke and related diseases, but an expanded mission was begun at the time of Triennium funding in 1971.

The expanded goals of the SCRMP's Regional Advisory Group were further defined and expressed in April of 1972. They include:

- (1) Planning and organization of community based health education programs.
- (2) Promotion of physician assistant training programs.
- (3) Support an expanded role of the nurse.
- (4) Coordinate recruitment and placement of new professional categories.
- (5) Evaluate impact and performance of new types of personnel.
- (6) Develop professional career opportunities for minority groups.
- (7) Develop and implement in-service education programs to establish career ladders and upgrade performance of existing health personnel.
- (8) Coordinate regional studies to identify and modify the obstacles that discourage physicians from entering and remaining active in primary community practice of medicine.
- (9) Encourage increased use of ambulatory care and remove the obstacles as imposed by third party payment.
- (10) Encourage use of the Problem Oriented Medical Record.
- (11) Design systems of public information regarding available health services and preventive medicine measures.
- (12) Support and improve emergency medical services.
- (13) Reduce infant mortality by increasing availability of prenatal care, especially in minority groups.
- (14) Shared bioengineering services programs be developed to improve safety, reliability, and efficiency in health care facilities.
- (15) Conduct studies, for expansion of economical domiciliary care for the incapacitated and elderly.
- (16) Identify the need and availability of specialized services and establish linkages for maximum use and servicing between regional institu-

tions, including programs for emergency medical services and systems for linkages.

### THE SCRMP GOAL

The SCRMP is dedicated to improvement of patient care. Through its support, new techniques are being taught and demonstrated. Attention is directed to early diagnosis and treatment, improvement of facilities, and application of research to health care delivery. Emphasis is placed on cost control, accessibility, improved communications and higher standards. Preventive medicine, in its broadest sense, including nutrition and education, early recognition of illness, ambulatory care and available emergency services is of fundamental importance.

Through the Medical District Committees of RMP, and their close relationship with other health care agencies, there can be collected information and data which will identify problems and priorities of specific groups and geographic areas.

Under the expanded mission SCRMP shares with all health groups, institutions and programs, public and private, the broad overall goals of (1) increasing the availability of health care; (2) enhancing its quality and (3) moderating its cost.

### METHODOLOGY

To achieve a valid listing of the problems will require a central data collecting and banking system to receive the input from broad representation from regional and sub-regional levels. It must receive input from the total spectrum of providers, consumers, planners and educators. Every effort must be made to guarantee that the needs and priorities are established by the regions themselves and are not the fantasies of outside "professionals." Much data is currently available but is fragmented and widely dispersed. Much of the data has been collected from a parochial viewpoint and has been formulated in a self-serving fashion.

### SCRMP OPERATIONS

The development of an application is a cooperative venture involving information and criteria from the project applicant, the

SCRMP Core Staff, possible outside consultants, and in some instances, the SCRMP RAG committees through their recommendations for the strengthening of a proposal.

The project applicant (that person or group who has expressed a desire to develop a basic idea into a proposal) is responsible for fully describing the activity and establishing a technically sound base. It is their idea and in a field of their expertise.

The SCRMP Core Staff members have expertise in the structural arrangements and support documentation requirements of an application. They are available to provide consultation during program development pertaining to all aspects of grantsmanship including format for the presentation of information, budget development, necessary documentation and establishment of systems for evaluation of proposed activities.

Preliminary studies carried out in project development for funding include a study of the present background of the proposed project and indicate in general terms the relationship of the project and its objectives to the goals of SCRMP. Desired information includes justification of the project, its implications and its ability to comply with the process of regionalization.

In problem identification, in order to define clearly the problem which is to be resolved by the project, the discussion includes what health problem is affected by the project, how many people are affected by this problem, and what health services problem exists, i.e. manpower shortages, need for continuing education?

There are also special considerations in the process of evaluation of **Educational Projects**:

1. Educational objectives, the action that will be taken to change students' abilities or knowledge. The content of subject matter in which action will be taken. The data to indicate attainment of objectives (what, how collected, when monthly-quarterly-annually where collected, and how it will be used for interpretation).

2. Procedures to collect data which will give appropriate or reliable evidence and if

a consultant will be used.

3. Data collection to indicate if participants in educational program as individuals have evidence of increased knowledge or skills, attitudes, and enthusiasm to continue in broader endeavors.

4. Summary and interpretation of data, significance of changes or observations, how well have objectives been met.

**For Health Care Objectives**, a similar process should be employed. There the effect would be to achieve some objective benefit in patient care. The data would be related to patient care and would relate to professional qualitative judgements as well as administrative and quantitative data. Professional consultants will visit with project directors in achieving some immediate as well as written report evaluations in order to judge most effectively the progress of a project.

In summary, often it would be necessary to show a change by comparing the results of the project's operation as compared with morbidity or mortality prior to or in a control group to determine if the observations made have validity.

After a preliminary study of the project proposal by the Staff of the SCRMP, the project proposal is submitted to the Technical Committee or other appropriate committees of the Regional Advisory Group. Their recommendations will then, via the Executive Committee, be placed before the RAG at one of the two meetings held during the year for final approval. It is at the level of the areawide or district level of the State that committee review determines actual need and priority for recommendation to the RAG in respect for funding. Professional competency and methodology are determined by the technical review committees.

In its functions, the RAG participates in 4 review activities. These are:

1. Review of and Setting of Overall Program Objectives — This is a creative type of review that ultimately results in setting objectives. The current objectives are reviewed



in relation to changing needs and any necessary modification or adjustments are made, although the final decisions are made by the RAG. A considerable weight towards making these decisions derives from studies and recommendations of the local district and the Medical Districts and Community Health Sciences Committee studies of areawide needs and opportunities and priorities.

2. New project or Program Component Review — This is review of proposals for activities of projects and core staff which are structured to meet the overall Program goals. The technical feasibility, the relationship to the overall Program goals, and the priority ranking for support is determined by the RAG, after the in-depth studies by the Technical Committees.
3. Review of Continuation Activities — This is review of on-going program or project activities to assess the fulfillment of stated goals, the effect of this on overall program goals, and the priority ranking among all program components for continued support.
4. Review by RAG of its own overall activity and program staff functions and needs for changes.

There are currently 20 operational projects funded by grants totalling \$1,108,736 for FY 1972-1973.

- #22 MUSC Heart Clinic Demonstration Project
- 39 State Heart Clinic Education and Service Program
- 40 Stroke Nurse Training Program
- 42 State Implementation of Heart and Stroke Projects
- 44 State Cancer Clinic Education and Service Program
- 45 Statewide Education Program in Nuclear Medicine
- 48 Cooperative Gynecologic/Radiotherapy Program
- 49 Statewide Laboratory Personnel Refresher Training

- 51 Hospital Network Education for Health Professionals
- 53 Program for Comprehensive Information for Medicine
- 55 Renal Dialysis Training and Transplant
- 56 Comprehensive Respiratory Disease Training Program
- 57 Spartanburg Education Program for Health Personnel
- 58 Coronary Care Program for Community Hospitals
- 59 Greenwood Regionalization of Coronary Care
- 60 Children's Cardio-Respiratory Disease Project
- 61 Statewide Teaching Program for Diabetics
- 62 Rural Mobile Health Program
- 64 Richland Memorial Allied Health Program
- 65 Carolinas Hospital Engineering Support Service

On February 4, 1973, the RAG approved 9 new projects for funding in our next fiscal year of \$159,369 if funds are obtained which seems highly improbable at this time.

The new projects approved for operational funding are:

TITLE	NEW NUMBER (#)
Education Program for Diabetics	66
Perinatal Center	67
Mobile Health Unit for Williamsburg County	68
Shared Health Manpower Development Programs	69
Eastern Pee Dee Hospital Training Program	70
Advanced Training for Emergency Medical Technicians	71
Areawide Social Services in Community Hospitals	72
Health Manpower Program in Operating Room Nursing	73
South Carolina Student Health Program	74

**OTHER FUNDED PROJECTS ARE  
DEVELOPMENTAL PROJECTS  
FOR A TOTAL OF \$123,650 (1972-1973)**

**Number**

- 015 Pilot Program:  
Emergency Medical Services Mobile Coronary Unit—Florence Ambulance Commission, Florence, Dr. E. C. O'Bryan and Dr. H. R. Stokes, to determine the feasibility of establishing mobile coronary care units and to provide comprehensive coronary care in the treatment of irregular heart action during the prehospital phase.
- 016 Pilot Program:  
Perinatal Intensive Care Unit—Medical University of S. C., Dr. Abner H. Levkoff and Dr. Henry C. Heins, Jr., to develop a prototype model of an Obstetrical Intensive Care Unit providing comprehensive monitoring on a limited number of high risk pregnancies.
- 017 Program Development:  
Compilation of a Health Services Standards Library—State Board of Health, J. Richard Coney, to provide district health planning agencies with complete and accurate working publications on health facilities and services in the districts and state of South Carolina.
- 018 Pilot Program:  
Obstetrical Assistant Program for Aiken County Hospital, Aiken, Dr. Kenneth R. Owens, to develop an Obstetrical Assistant Training Program for Licensed Practical Nurses in a multi-county state district to improve prenatal and perinatal care for the rural indigent.
- 019 Pilot Program:  
Innovative Methods for Practicing Community Pharmacists—College of Pharmacy, Medical University of S. C., Dr. William H. Golod, to design and test methods to reduce drug hazards and to insure efficacy of prescribed medication.
- 020 Pilot Program:  
Pee Dee Regional In-Service Training for Hospitals—Marion County Memorial Hospital, Marion, David G. Askins, Sr., to define and test a coordinated training program for manpower development in a group of community hospitals.
- 021 Program Development:  
Advanced Training for Emergency Medical Technicians—S. C. Hospital Association, Libby Alford, to and test approaches to improved regional training program for emergency medical technicians.
- 022 Program Development:  
Organization of S. C. Medical Care Foun-

ation—S. C. Medical Association, M. L. Meadors, to promote improved distribution of high quality, easily accessible, medical services for the people of S. C. at reasonable costs.

- 023 Pilot Program:  
Shared Social Services Support for Community Hospitals—The Tuomey Hospital, Sumter, Ralph M. Abercrombie, Jr., to develop the role of the social services department in a group of community hospitals and to provide pre-admission counseling and planned discharge services.
- 024 Pilot Program:  
Shared Educational Programs in Community Hospitals—Self Memorial Hospital, Greenwood, Kenneth Flinchum, to develop shared educational courses and programs applicable to the needs of a major hospital and outlying community hospitals in a six-county area.

Also this fiscal year SCRMP funded these contracts for a total of \$112,100.

**PROGRAM CONTRACTS 1972 - 1973**

**South Carolina Regional Medical Program**

Shown below are the title, sponsor, director's name, summary and amount of SCRMP award

- | Number | Contract   |
|--------|--|
| M-714  | Training for Operation Room Nurses—Midlands Association of Operating Room Nurses, Dr. Donald H. Harwood, Columbia, will involve two statewide, eight-week operation room nurses' courses at Richland Memorial Hospital, Columbia for 15 registered nurses in each class.                   |
| M-724  | Advanced Education for Licensed Practical Nurses—Richland School District No. 1, Claude E. Kitchens, Columbia, Richland School District No. 1 will survey educational needs of LPN's in the Central Midlands District and develop a curriculum for an Advanced Course.                     |
| M-734  | Emergency Medical Technician Basic Training—S. C. State Board of Health, Dr. D. H. Robinson, Columbia, this will provide teaching materials to enable Vocational Training Centers and Technical Education Centers to supply training programs for upgrading emergency medical technicians. |
| M-744  | Emergency Medical Services Provider Conference—Medical University of S. C., Dr. Lawrence Hanbeck, Department of Surgery at MUSC to conduct planning workshops to establish a cooperative statewide action plan for comprehensive emergency medical service.                                |
| M-754  | State Plan for Emergency Medical Services—S. C. State Board of Health, Dr.   |

- D. H. Robinson, Columbia, the contractor will obtain the necessary information, advisory assistance or planning support and provide a plan for "Comprehensive Emergency Health Services in S. C."
- M-764 Patient Origin and Hospital Utilization Survey—Research and Development Foundation (USC), Richard W. Furst, Columbia, to conduct a study for a "S. C. Hospital Patient Origin Survey" to determine the possibilities for a valid statewide collection and analysis of hospital-based services.
- M-774 R. N. Certification Through Continuing Education—S. C. Nurses' Association, Ruth A. Nicholson, R.N., Columbia, to conduct a study to formulate certification of competency in nursing in the presence of new knowledge and changing patterns of patient care.
- M-784 Central Pee Dee Allied Health Care Programs—Florence-Darlington TEC, William K. Temple, Florence, to conduct planning for a cooperative effort for improving and increasing effectiveness and efficiency of manpower training and health care in the northeast region of S. C.
- M-794 Bioengineering Symposium on Implant Materials—Clemson University, Dr. Samuel F. Hulbert, Clemson, to assess present knowledge concerning the phenomena occurring at the interface between implant material and body tissues and determine new approaches.
- M-904 Hospital Trustee Education Program—S. C. Hospital Association, William L. Yates, Columbia, to establish a program for Hospital Trustee Education.
- M-914 Hospital Discharge Planning—S. C. Hospital Association, William L. Yates, Columbia, to study and report on the level of development of patient discharge planning programs and activities in South Carolina.
- M-924 Retraining for Medical Laboratory Personnel—S. C. Society for Medical Technology, Susan M. Cheatham, Columbia, to retrain a broad spectrum of personnel including any and all levels of individuals who are currently involved in laboratory medium.
- M-934 Cancer Referral Center—Greenville Hospital System, Jack A. Skarupa, Greenville, the contractor will develop a plan for a cancer treatment center in Greenville, S. C. to serve upper S. C.
- M-944 Youth Education on Drug Abuse—Medical University of S. C., Francis J. Hodge, Charleston, to develop a multi-directional

program on Drug Abuse for teenagers at junior and high school level, public awareness, and teaching profession.

- M-954 Health Science Library Services—Medical University of S. C., W. A. Sawyer, Charleston, represents expansion of library services for health personnel in S. C. including a telecopy linkage between MUSC, Charleston, and the National Library of Medicine, Washington, D. C.

As can be seen from the listing of projects, the categorical areas of RMP interest and support are retained, but emphasis is also being placed on assistance in the general areas of health service and health care in the State. The role of RMP was broadened to assist physicians and health services personnel in areas of need beyond categorical emphasis.

This comprehensive plan for the regionalization of services and resources for improved health care by manpower extension as developed by the SCRMP has been presented to the Governor and other State officials for consideration. The main thrust of the plan is to pull services together, improve communications and relate to common problems and needs.

Increased efforts are being made to coordinate the SCRMP with other local, State and Federal programs in the planning, operation, and financing of many projects as program components by joint funding. In addition to health problems, more effort will be made to improve emergency medical services through the development of plans for regionalization and coordination of activities in cooperation with State and other agencies.

An extensive study is underway by SCRMP staff of needs/priorities on a geographical basis to evaluate the effect which SCRMP and other health-related program activities have had to date. This study will also result in recommendations that will lead to a revised updating of Program objectives for the second SCRMP Triennium Application (1974-1977). The RAG is actively associated with and has actively participated in this study.

The main thrust of the SCRMP programs



as planned for next year is towards measuring and improving the quality of health care area and to assist in plans for making it more accessible and economical.

In mid-1972 SCRMP initiated an exhaustive "grassroots" survey among members of Local District Committees to ascertain priorities of the new SCRMP goals enacted in April 1971 in each district and establish a priority for reflecting these needs to SCRMP's Medical District Committee and then to the Regional Advisory Group. The composite forms will be used by the SCRMP staff and prospective project applicants in developing projects and programs for next year. They are also used by the committees when they meet in full sessions to review the project applications. The needs will be reviewed and modified by the committees as appropriate. In this way the Committees will be establishing their own criteria on a continuous basis so that they may provide complete project review and guide SCRMP in the proper direction.

SCRMP is supporting studies related to how health care is delivered and programs are emphasized that assist health care providers in ways providing for efficiency and increased effectiveness.

The development of the Children's Heart Program supported by the SCRMP has led to a new dimension in the care of infants and children with heart disease in South Carolina.

SCRMP staff members are participating in meetings with State agencies in connection with the development of a Military Assistance to Safety and Traffic program in South Carolina. The State Board of Health has been designated to run the MAST Program in the State. South Carolina has been selected as one of the test sites utilizing Army helicopters supporting ambulances with Ft. Jackson as the State's site.

Working jointly with the North Carolina RMP, the SCRMP is supporting a program known as Carolinas Hospital Engineering Support Services (CHESS), which will provide subscribing hospitals with a full range of biomedical engineering and tech-

nical services to insure safety inspection, equipment calibration, proper maintenance, and operator instruction for physical plants and equipment. The program will be supported by a network of service centers extending over the two Carolinas. The first group of engineers to staff the centers are currently undergoing training at the Medical University of South Carolina with SCRMP grant support.

The SCRMP staff worked with the S. C. Appalachian Regional Health Policies and Planning Council.

A series of meetings was arranged by SCRMP of regional groups of hospital administrators which resulted in refinement of the continuing joint effort of SCRMP and the S. C. Hospital Association to develop in-service hospital training for hospital employees and shared services among the hospitals.

The SCRMP, working in cooperation with the American College of Surgeons, American Surgical Association, and Harvard University, supported a comprehensive study among 19 hospitals in lower South Carolina and the State Board of Health to ascertain future needs for surgical manpower during the period 1980-1990 and beyond.

In September 1972 the SCRMP-supported Health Communications Network expanded from 11 member hospitals to 15 members and inaugurated the use of video cassettes. Earlier in the year the Network had become self-sustaining to the extent that each member hospital pays its way in maintaining the closed-circuit TV and telephone circuitry which links the system. During the reporting period the Network aired open-circuit and closed-circuit programs for physicians, nurses and allied health personnel; programs are produced at the request of member hospitals and a library of recorded programs is maintained.

Medical University of South Carolina officials have announced plans to utilize SCRMP existing Health Communications Network in connection with the operation of the South Carolina Medical Consortium, a program that allows senior students to

take their final year of clinical training at hospitals in Greenville, Spartanburg or Columbia. The program is intended to provide new training opportunities and added health care capability in areas where they are current scarce or non-existent.

The SCRMP's Health Communications Network was utilized on January 23, 1972, for a special 3-hour "Venereal Disease Awareness Program" for the 1500 practicing pharmacists throughout the State. The program was presented as an introduction to a series of future VD presentations for the public and to provide current information on venereal disease epidemiology and treatment.

As part of its continuing program of providing assistance to organizations working to rehabilitate stroke victims, SCRMP is providing assistance to the Easter Seal Society for Crippled Children and Adults of Berkeley, Charleston and Dorchester Counties in organizing the first Stroke Club in South Carolina.

SCRMP support and assistance have resulted in the recent organization of the South Carolina branch of the National Kidney Foundation and a major expansion of the diagnosis and treatment of persons stricken with chronic renal disease, including transplantation.

As part of its public education campaign, the SCRMP assisted the Public Relations Committee of the S. C. Medical Association in the production of a series of 30-second television spot announcements, dealing with common medical problems, that subsequently appeared for several weeks on 13 television stations across the State.

Focus will be on the team approach toward education and the delivery of health care and on evaluation techniques for the assessment of health education and delivery.

The staff are in their efforts providing much support for the Medical District Committees to enable these groups to establish the needs of highest sub-regional priority with due recognition to costs, better communications, quality and quantity of care, and support from other public and private

agencies. Also, to be considered and properly evaluated in program development are services for certain population groups, i.e. children, the poor, urban and rural problem areas.

In the area of Health Manpower Development, the SCRMP staff have worked with representatives of the SC Hospital Association.

The SCRMP staff have been instrumental in the formation of an Advisory Nurse Panel to the SCRMP ETV. Membership consists of key leaders in nursing across the State. Members exchange information, explore ways their agency can assist in the production of programs and means of utilizing services of SCRMP-ETV. The panel is considering means by which some type of accreditation may be given for both participation and attendance at closed-circuit TV conferences and other media oriented meetings as presented by the SCRMP Network.

Emergency Medical Service has received considerable attention from the SCRMP staff. A SCRMP representative serves on the Finance Task Force of the South Carolina EMS Planning Board. The organization plans comprehensive emergency medical service in South Carolina. This group is developing recommendations for securing adequate financial resources for implementation of the plan, including staff support, communications system, expansion and modernization of emergency facilities, training programs, transportation services, public information, and evaluation.

**ACTIVITIES SPONSORED OR JOINTLY  
SPONSORED BY THE  
SOUTH CAROLINA REGIONAL  
MEDICAL PROGRAM  
NOVEMBER 1, 1971 - NOVEMBER 30,  
1972**

DOSIMETRY WORKSHOP FOR RADIATION THERAPY TECHNOLOGISTS, a five day workshop, sponsored by the South Carolina Regional Medical Program, Department of Radiology, Division of Radiation Therapy and the Division of Continuing Education of the Medical University. Held November 5-9, 1971, with an attendance of 12 at the Medical University.



**CORONARY ARTERY DISEASE**, a two day course, sponsored by the South Carolina Regional Medical Program, Division of Cardiology, Division of Thoracic Surgery and Division of Continuing Education of the Medical University. Held December 3-4, 1971, in the Basic Science Building of the Medical University, with an attendance of 42.

**SECOND ANNUAL COURSE IN EMERGENCY CARE NURSING**, a four day course directed to emergency room nurses, sponsored by the South Carolina Committee on Trauma, American College of Surgeons, in cooperation with the Department of Surgery, College of Nursing, and Division of Continuing Education of the Medical University of South Carolina and the South Carolina Regional Medical Program. Held at Charleston, January 24-27, 1972, with an attendance of 85.

**THIRD ANNUAL FAMILY PRACTICE REFRESHER COURSE AND OTOLARYNGOLOGY CONFERENCE**, sponsored by the Medical University of South Carolina, Division of Continuing Education, with cooperation from the South Carolina Regional Medical Program and the Department of Family Practice, Medical University of South Carolina. Held February 6-13, 1972, at Charleston, with an attendance of 63.

**CONFERENCE ON MANAGEMENT OF PATIENTS WITH RENAL PROBLEMS**, a program directed toward further interdisciplinary planning and collaboration in the management of patients with kidney problems, sponsored by the Continuing Education Committee, College of Nursing in cooperation with the South Carolina Regional Medical Program, Department of Medicine, College of Pharmacy and the Division of Continuing Education of the Medical University of South Carolina. Held February 25-26, 1972, with an attendance of 176, at the Medical University.

**COMMUNICATIONS AND INFORMATION CONFERENCE**, Representatives of 14 Southeastern Regional Medical Programs extending from Maryland to Louisiana met March 8-9, 1972, in Charleston, to discuss information problems involved in new cooperative efforts in health care delivery—Sponsored by the SCRMP and the office of the SE RMP Inter-Regional Representatives.

**SIXTEENTH GREENVILLE POST-GRADUATE SEMINAR**, a three day seminar, held March 21-23, 1972, at the Greenville General Hospital, in Greenville—Sponsored by the South Carolina Regional Medical Program, Greenville General Hospital and Greenville County Medical Society. The seminar was attended by 192 physicians in a 100 mile radius of Greenville.

**PRACTICAL APPROACHES TO THE DIAG-**

**NOSIS AND TREATMENT OF DIABETES MELLITUS**, a program devoted to problems encountered by the practicing physician in the diagnosis and office management of diabetes mellitus, sponsored jointly by the Departments of Family Practice, Medicine and Division of Continuing Education of the Medical University of South Carolina and Pfizer Laboratories. The program was held at the Medical University, October 11, 1972, with an attendance of 216 registrants, students, and house staff.

**THREE DAY WORKSHOP FOR PFIZER REPRESENTATIVES**, sponsored by the Division of Continuing Education of the Medical University, held October 12, 13, & 14, 1972, with an attendance of 13 at the Medical University of South Carolina.

**FIFTEENTH FALL EDUCATIONAL SEMINAR**, a two day seminar held November 4-6, 1972, sponsored by the South Carolina Regional Medical Program, and the Division of Educational Services of the University of South Carolina, attended by 142 practitioners and optometrists.

**AN IMMUNOLOGY WORKSHOP FOR LABORATORY PERSONNEL**, a three day course to provide participants in the course with theoretical knowledge and technical skills necessary for quantitatively assaying serum immunoglobulins, sponsored by the Bureau of Laboratories of the S. C. State Board of Health, Columbia, South Carolina; the South Carolina Regional Medical Program, Charleston, South Carolina; and the Center for Disease Control, Atlanta, Georgia; held November 8-10, 1972, at Columbia, with an attendance of 12.

**DIAGNOSIS AND MANAGEMENT OF THE HYPERTENSIVE PATIENT**, sponsored by the Medical University of South Carolina, Nephrology Division of the Department of Medicine and the Division of Continuing Education. The symposium was held November 10, 1972, at the Medical University, with an attendance of 114 registrants, faculty, house staff and students.

**WORKSHOP IN RADIATION THERAPY**, sponsored by the Division of Radiation Therapy, Department of Radiology of the Medical University of South Carolina and the South Carolina Regional Medical Program, held November 10-13, 1972, at Charleston, with an attendance of 18.

**THE SCRMP SUPPORTED NURSES PROJECT**, arranged a series of 7 workshops on the subject, Nursing Management of Stroke Patients, at hospitals and nursing centers during the period March, May and June 1972. The Workshops were attended by 173 RN's, LPN's, Nurses Aids and Student Practical Nurses.

**SIXTH ANNUAL RESIDENTS CONFERENCE**, a three day conference directed toward offering the practicing ophthalmologists in the state an



opportunity to become more cognizant of the facilities and capabilities of the Department, sponsored by the Department of Ophthalmology and the Division of Continuing Education of the Medical University of South Carolina. Held April 6-8, 1972, with an attendance of 60.

CYTOLOGY SEMINAR NO. 8, sponsored jointly by the Cytology Section of the Department of Pathology and the Division of Continuing Education of the Medical University of South Carolina, and the South Carolina Division of the American Cancer Society. Held April 15, 1972, with an attendance of 60, at the Medical University.

THE THIRD ANNUAL SYMPOSIUM ON GYNECOLOGICAL CANCER, sponsored by the Department of Obstetrics and Gynecology, the Division of Radiation Therapy, and the Division of Continuing Education of the Medical University of South Carolina; and the South Carolina Regional Medical Program, held April 23-25, 1972, with an attendance of 39.

WORKSHOPS ON NURSING CARE PLANNING, two three-day workshops held May 10-12, and May 17-19, 1972, with an attendance of 60 at the Medical University; sponsored by the Continuing Education Committee of the College of Nursing in cooperation with the South Carolina Regional Medical Program, Division of Continuing Education of the Medical University of South Carolina.

THE HOSPITAL CANCER REGISTRY, a two day workshop, held July 17-18, 1972, at the Town House Motor Inn, in Columbia and was attended by Medical Records Personnel and other personnel—Sponsored by the American College of Surgeons, Cancer Control Division of the S. C. State Board of Health, South Carolina Regional Medical Program, American Cancer Society, and South Carolina Medical Record Association, Attendance 100.

LATEST TECHNIQUES AND DEVELOPMENTS IN NUCLEAR MEDICINE, sponsored by the South East Chapter of the Society of Nuclear Medicine, Department of Radiology, Self Memorial Hospital, South Carolina Regional Medical Program and Division of Continuing Education, of the Medical University of South Carolina. The program was held September 22, 1972, with an attendance of 37 Radiologists, Internists, Technologists, and others, at the Self Memorial Hospital, Greenwood.

SEMINAR NO. 1 IN CONTINUING EDUCATION HEMATOLOGY, a two day seminar designed for medical laboratory personnel, physicians and pathologists—Sponsored by the South Carolina Society for Medical Technology and South Carolina Regional Medical Program, held September 28-29, 1972, with an attendance of 122, at Columbia.

SECOND ANNUAL PULMONARY PHYSIOLOGY SEMINAR, a four day course sponsored by the Respiratory Disease Training Program, South Carolina Regional Medical Program, and Division of Continuing Education of the Medical University of South Carolina, and the Charleston Veterans Administration Hospital, held October 2-6, 1972, at Charleston. Seventy-five physicians, nurses and paramedical personnel from six states attended the seminar.

### JOINT ACTIVITIES: SCRMP AND DIVISION OF CONTINUING EDUCATION

So far this year the following activities have been conducted:

#### Courses Offered Current Year (7/1/72 - 1/17/73)

Number of Courses	13
Number Attending	883

#### ETV Presentations:

Number of Programs	15
Average Audience	500

#### Close Circuit Hospital Talkback

#### Conferences:

Number of Conferences	7
Total Audience	341

#### Programs Provided for County

#### Medical Societies

York and Kershaw Counties	10
Beaufort Naval Hospital	5

#### Special Programs

Hospital Cancer Registry Workshop	
Attendance	100
Fifteenth Fall Educational Seminar	
Attendance	142
Hands-On Workshop	
Attendance	20

#### Cassette Library

Videotape Dubs	19
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#### National Library Hook-up

Number of times used	321
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Through SCRMP support, a special program was arranged over WSPA-TV, Spartanburg, South Carolina, August 27, 1972, that reflected the activities of the Statewide Teaching Program for Diabetics project underway at Spartanburg General Hospital.

In addition to the above, SCRMP has maintained liaison with other organizations and groups which make a contribution to

improved health care for South Carolinians, including the following:

- Palmetto Medical, Dental and Pharmaceutical Society
- S. C. Speech and Hearing Association
- S. C. Vocational Rehabilitation
- S. C. Physical Therapy Association
- S. C. Department of Mental Health
- S. C. Department of Education
- S. C. Nursing Home Association
- S. C. Employment Security Commission
- S. C. Mental Health Association
- S. C. Society of Medical Technologists
- S. C. State Board of Medical Examiners
- S. C. State Board of Nursing
- S. C. Department of Public Welfare
- Technical education centers
- State Committee for Technical Education
- S. C. Dietetic Association

As a result of an active Sub-Regional Office of the SCRMP located in Columbia, the State Capital, and frequent staff assistance visits to the field by members of the SCRMP office in Charleston, excellent relationships exist throughout the State between the SCRMP staff, members of the Regional Advisory Group, physicians, nurses, dentists and other health service groups of both public and volunteer agencies.

The SCRMP staff arranges speakers on a continuing basis for meetings of hospital medical staffs, medical societies, hospital boards of trustees, and other health-related and public groups. Twenty requests for speakers have been filled during the past 12 months.

The SCRMP also assisted in the organization of a Governor's Committee for Nutrition in the State.

I would like to cite as an example of SCRMP's role as a catalytic agent in health planning and in support of EMS programs, that the SCRMP has supported a survey of ambulance, emergency room, communication and transportation needs in South Carolina, out of which the American College of Surgeons Committee on Trauma and the Medical University of South Carolina's Department of Surgery developed a State

Plan for Emergency Care. The SCRMP has also participated in E. R. planning and has provided support for this area of health programs for the S. C. Hospital Association, the State Board of Health, MAST Planning Sessions, DOT Planning Sessions in conjunction with the State Board of Health, and for the Charleston-Dorchester-Berkeley Counties CHP (b) and District #9 economic planning district agencies.

Workshops, EMT training curricula, ER nurses refresher training courses, and support for a team of physician representatives to present refresher continuing education training for physicians and hospital personnel in ER techniques throughout the State over a two-year period are also activities SCRMP has assisted in. Several of these programs were also presented over the State ETV Network for public as well as professional information.

Funding a mobile unit for ER cardiac problems and the training of physicians and nursing personnel in cardiac, respiratory and other acute medical emergency problems in association with hospitals, the MUSC, the State Nurses Association, the State Hospital Association, and the Heart Association have also been carried out.

Some 640 EM technicians have been given primary training with RMP assistance by the State Board of Health and the State Hospital Association personnel.

In addition, 4,529 persons have been trained in emergency medical services, including resuscitation, with 185 courses held throughout the State, and in which 200 M.D.'s, 2,344 nurses, 7 EM industrial technicians, 1,065 ambulance personnel have received training by the efforts of the SCRMP supported project directed by the S. C. Heart Association.

Expenditures in this area of our Program from FY 1970 through FY 1973 amounted to \$357,075. There was an additional \$559,535 spent for other primary health care programs which also had an element of emergency services in them.

**A SUMMARY OF SCRMP IMPACTS  
DURING FY 1972-1973**

**I. MORE EFFECTIVE MANPOWER USE**

42% of budget	\$759,394 expended
New skills developed	314 allied health personnel
New skills developed	12 M.D.'s
New skills developed	18 R.N.'s
Improvement in existing skills	1,603 M.D.'s
Improvement in existing skills	3,379 R.N.'s
Improvement in existing skills	1,167 allied health personnel

**II. IMPROVED ACCESSIBILITY AND AVAILABILITY OF HEALTH CARE**

6% of budget **Primary Health Care** = \$113,468  
 Persons served 4,309  
 5% of budget **Emergency Medical Programs development** = \$86,672

**III. REGIONALIZATION OF SPECIAL SERVICES — CATEGORICAL DISEASES AND SECONDARY AND TERTIARY CARE PROGRAMS**

32% of budget = \$576,741

<b>Programs:</b>	<b>Persons Served:</b>	
Heart Disease	5,100	(\$174,150)
Cancer	7,600	(\$218,000)
Stroke	260	(\$ 40,000)
Kidney Disease	48	(\$130,295)
Pulmonary Disease	5,000	(\$134,893)
Other	2,600	(\$ 5,429)

**IV. QUALITY OF MEDICAL CARE ASSURANCE**

7% of budget = \$121,178  
 20 Facilities (\$121,178)  
 1200 Beds  
 60,833 patients benefitted

**V. ADMINISTRATIVE COSTS**

8% of budget — \$150,871  
 100% TOTAL \$1,808,324 for FY 1972  
 Plus Contract 98,186 (Contract 60-A)  
 GRAND TOTAL \$1,906,510

**VOLUNTEER SUPPORT**

**RAG AND COMMITTEES**

170 M.D.'s	2 D. D. S.'s	367 total persons involved (36 black, 39 women)
39 R.N.'s		
73 health administrators		
83 members of the public		

RMP Staff (program staff) 38 persons (4 minority)



# President's Pages



In due time, it is believed that history will record that medical and health care will rank as one of the major concerns of the American Republic and especially of public officials in the 1970's. In accord with this feeling, it is of great interest and importance that Governor John C. West has asked Mr. Robert Toumey, the Administrator of the Greenville Hospital System, to initiate and develop plans for the study and analysis of medical and health care for the residents of South Carolina. Since the the Governor chose not to appoint a doctor as the head and the director of this Study Commission, certainly Mr. Toumey is as well qualified as anyone in the State. His experience on the local, state and national levels in the formulation and administration of policies has been extensive and creditable. It is fortunate for the public and for the medical profession, that Mr. Toumey has stated that he supports fully the traditional mechanisms of medical practice and the current methods of rendition of medical care. However, he believes that because of changes in our society, meaning particularly the alleged shortage of doctors, the tendency to specialization in the last twenty years and the tendency for doctors to gravitate to cities or urbanized areas, it is well that the traditional and existing methods be examined and changes for improvement be sought. It is planned that five phases of the prevailing system be examined thoroughly. The first is Undergraduate Medical Education. In other words, should the so-called pre-clinical years be given only in the Medical University, or should additional pre-clinical schools be established, analogous to the two year schools of former times. The second would be Graduate Medical Education with emphasis on the development of family practice residencies throughout the State in order to create more positions for under-graduate medical students in the clinical years and in the post-graduate years, and in order to encourage more doctors to remain in general practice and to settle in the less populous areas. A third aspect of the study and a most important one will be an analysis of the availability of services to the poorer areas and the poorer people of the State. The fourth will be a study of the Emergency Medical Services. The fifth will be the study of methods to involve possibly the South Carolina Foundation for Medical Care as an agency of the State in the provision of adequate care to State employees and to the poorer elements of the population.

All of these projects are naturally worthy of the extensive time, money and thought which they will require and should have the full support of the medical profession of the State. It is only to be hoped that the medical profession will have a dominant representation on the study groups to be appointed. But we must recognize that if more and more medical and health care is to be financed from public funds rather than private funds, the general public and not the medical profession may have the dominant say in how the medical and health services will be provided. Therefore, it is considered particularly important that the entire medical profession of the State respond to the demands which will be made upon it in this extensive study, and that the medical profession continue to be as compassion-

ate and generous in its ministrations to the public, rich or poor, in order to avoid increasing Government controls and directives, and a truly socialized system of medical and health care.  
Edward F. Parker, M.D.

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## Editorials

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### ANNUAL MEETING—MAY 13-16, 1973 MYRTLE BEACH, SOUTH CAROLINA

There are several **new**, good reasons you will enjoy the South Carolina Medical Association meeting this year. These new, good reasons are in addition to the **old**, good reasons of fun, fellowship, food, frolic (on the golf courses, of course) and advancing the business of the Association.

The officers of the South Carolina Medical Association have spared no effort to make this year's meeting the best ever. The Scientific Program has been carefully designed for as wide appeal as possible. Check the program elsewhere in this issue.

The new South Carolina Medical Association headquarters to be built in Columbia will be described in detail. Everyone should be interested in this as it is one of the most significant changes in our Association in a long time.

Probably the most interesting new reason you will enjoy this meeting more than before is the new facilities. Instead of the old Ocean Forest site, Council has arranged for four nice, modern motels, all in close proximity to each other, to be the headquarters for the meeting. This should certainly enhance the amenities of the meeting.

The final and ultimate enticement to the 1973 South Carolina Medical Association meeting is the fact that you can celebrate with your wife the Fiftieth Anniversary of the South Carolina Medical Association Woman's Auxiliary. The good ladies have big plans for this, their fiftieth annual meeting. These plans are noted elsewhere in this issue and should be reason enough

in themselves to bring you and your lady to the beach.

See you there.

E.E.K.

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#### The Newer New South

In 1886, in Atlanta, Henry W. Grady made his famous and very valuable speech, "The New South," in which he advised the South to overcome North-South hatreds arising from the War Between the States. He also soundly beseeched the South to cease being a one crop section, depending entirely on King Cotton.

The South did slowly take Grady's advice, gradually putting aside animosity toward the North and ultimately diversifying and industrializing. But this wasn't enough! As discussed here last month, a reasonably valid ranking of the states found, both in 1931 and in 1972 (different rankings), that eight of the worst ten states were members of the old Confederacy. Obviously, Henry Grady left something out of his prescription.

It appears to me that we have finally found the right ingredient and that the Newer New South is set to blast off for heights never even envisioned by Henry Grady.

As soon as the difficulties always encountered with any significant change are worked out and this missing component becomes fully realized, the eclat of the South will be amazing. This missing ingredient which has held the South down for so long but is about to be restored beyond the capacity of any other section of this



# A DOUBLE-DUTY DIURETIC

# DYAZIDE<sup>®</sup>

Trademark

Each capsule contains 50 mg. of Dyrenium<sup>®</sup> (brand of triamterene)  
and 25 mg. of hydrochlorothiazide.

## GETS THE WATER OUT IN EDEMA

## BRINGS DOWN BLOOD PRESSURE IN HYPERTENSION\*

## SPARES POTASSIUM IN BOTH

Before prescribing, see complete prescribing information in SK&F literature or *PDR*.

**\*Indications:** Edema associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. Also, mild to moderate hypertension.

**Contraindications:** Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

**Warnings:** Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia ( $> 5.4$  mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently — both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides

are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

**Precautions:** Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

**Adverse Reactions:** Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

Supplied: Bottles of 100 capsules.

**SK&F CO.**  
Carolina, P.R. 00630

*a subsidiary of Smith Kline & French Laboratories*



# What's in it for her?

All steroid molecules are not the same...in their activity. In prescribing birth-control pills, estrogen/progestogen activity is more important than milligrams. The woman's hormone profile often indicates the activity best for her.

ethinyl estradiol/50 mcg.

mestranol/100 mcg.

ethynodiol diacetate/1 mg.

ethynodiol diacetate/1 mg.

## Typical characteristics of the "balanced" profile

- normal menses
- well-rounded breasts
- clear complexion
- normal figure with normal secondary sex characteristics
- normal cytohormonal pattern

This "center spectrum" pill has had excellent user acceptance for over seven years.

## Ovulen®

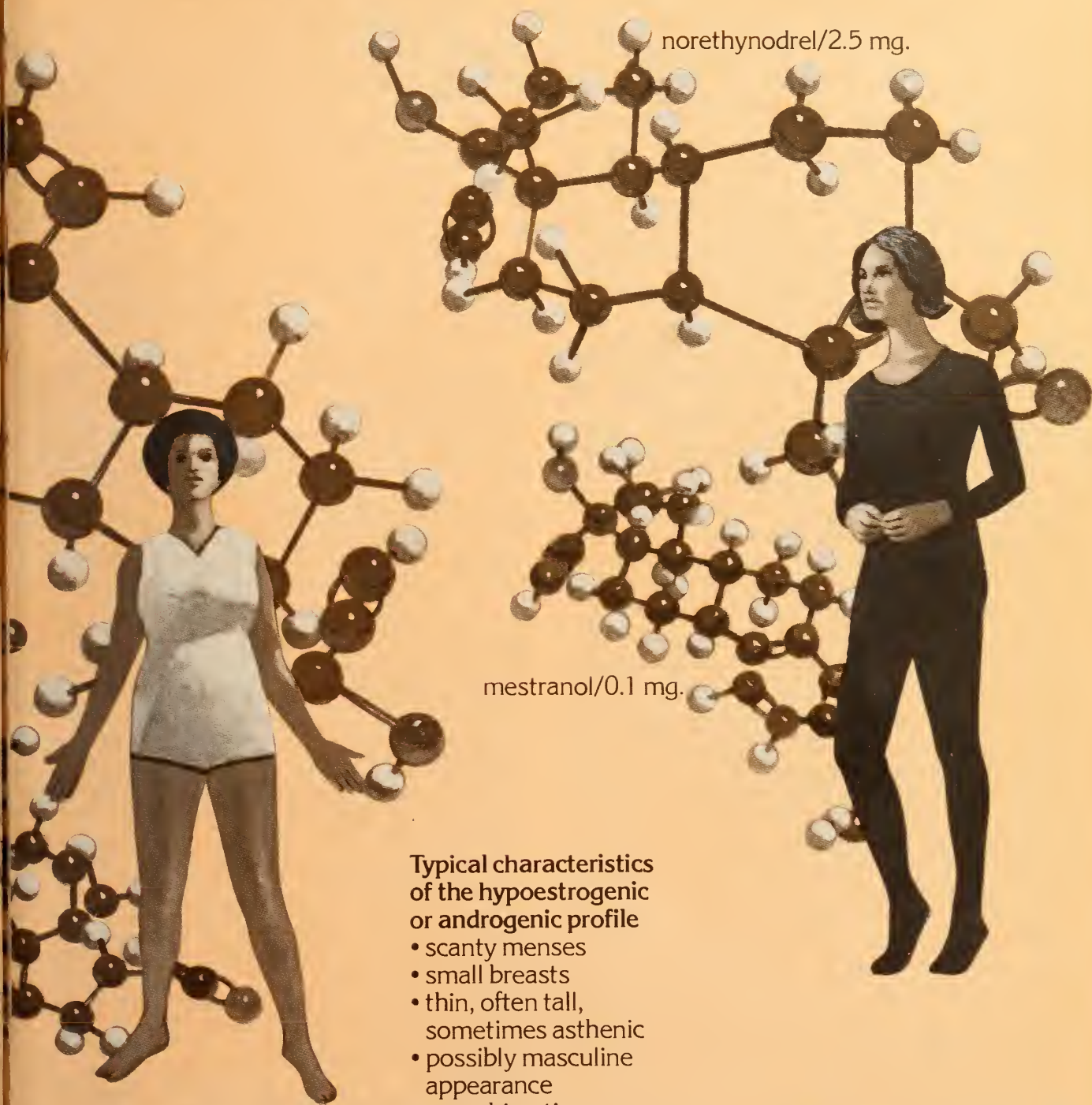
Available in 20-, 21- and 28-pill schedules  
Each white tablet contains: ethynodiol diacetate 1 mg./mestranol 0.1 mg.  
Each pink tablet in Ovulen-28® is a placebo containing no active ingredients.

for the majority of women...  
when centrally balanced  
activity is preferred

## Typical characteristics of the slightly hyper-estrogenic profile

- heavy flow
- large breasts, sometimes fibrotic; nipples well pigmented
- very feminine appearance; occasionally short
- premenstrual syndrome, fluid retention
- tendency to uterine fibroids
- high pyknotic index

This formulation, which has less estrogenic activity and a moderate progestogen dominance, may be a good beginning.



norethynodrel/2.5 mg.

mestranol/0.1 mg.

**Typical characteristics  
of the hypoestrogenic  
or androgenic profile**

- scanty menses
- small breasts
- thin, often tall,  
sometimes asthenic
- possibly masculine  
appearance
- acne, hirsutism
- low sexual motivation
- thin vaginal lining,  
tendency to vaginitis  
and dyspareunia

This pill has a relatively weak and unique\* progestogen with inherent estrogenicity. Clinically, just as in animal studies, it appears not to possess antiestrogenic and androgenic activity.

# Demulen<sup>®</sup>

Available in 21- and 28-pill schedules  
Each white tablet contains: ethynodiol  
diacetate 1 mg./ethinyl estradiol 50 mcg.  
Each pink tablet in Demulen-28<sup>®</sup> is a  
placebo containing no active ingredients.

well suited to most women  
when low estrogenic activity  
and moderate progestogen  
dominance are preferred

# Enovid-E<sup>®</sup>

Available in 20- and 21-pill schedules  
Each tablet contains: norethynodrel  
2.5 mg./mestranol 0.1 mg

a clear choice for women  
when estrogen dominance  
and no androgenic activity  
are preferred

\*Of all the progestogens, norethynodrel  
most resembles the molecular structure of  
the estrogens. It has the weakest proges-  
tational activity of any progestogen in a  
combination pill.



# Ovulen®

Each white tablet contains:  
ethynodiol diacetate 1 mg./mestranol 0.1 mg.

Each pink tablet in Ovulen-28® and Demulen-28® is a placebo, containing no active ingredients.

**Actions**—Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Special note**—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication**—Ovulen and Demulen are indicated for oral contraception.

**Contraindications**—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings**—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain<sup>1,3</sup> leading to this conclusion, and one<sup>4</sup> in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll<sup>3</sup> was about sevenfold, while Sartwell and associates<sup>4</sup> in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions**—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations pre-existing uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible

# Demulen®

Each white tablet contains:  
ethynodiol diacetate 1 mg./ethinyl estradiol 50 mcg.

influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives**—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T<sup>3</sup> uptake values; metyrapone test and pregnanediol determination.

**References:** 1. Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, J. Coll. Gen. Pract. 13:267-279 (May) 1967. 2. Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. 2:193-199 (April 27) 1968. 3. Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. 2:651-657 (June 14) 1969. 4. Sartwell, P. E.; Masi, A. T.; Arthes, F. G.; Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives: An Epidemiologic Case-Control Study, Amer. J. Epidem. 90:365-380 (Nov.) 1969.

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## Enovid-E® with estrogen-dominant/nonandrogenic activity

norethynodrel 2.5 mg./mestranol 0.1 mg.

**Actions**—Enovid-E acts to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Enovid-E depresses the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Indication**—Enovid-E is indicated for oral contraception.

The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

## Enovid-E®

brand of norethynodrel with mestranol

**SEARLE** Product of Searle Laboratories  
Division of G. D. Searle & Co.  
Box 5110, Chicago, Illinois 60680  
Where "The Pill" Began



nation or this world is social justice, social justice for all. When everyone in the South is able to contribute to society and have a vested interest in society, limited only by

their personal abilities, when this condition is reached, we will be there.

E.E.K.

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## LETTER TO THE EDITOR

Dear Dr. Kimbrough:

Thank you for your editorial on "Physician's Union" in the January, 1973, issue of the Journal. I am surprised that our Society does not already have means by which physicians can appeal through the Society payments that are grossly wrong. I use the term grossly, as most physicians now wisely advise the patient the usual charges he will make, does not accept direct assignment, and the patient makes up the small differences. To establish such appeal service should also include the cooperation of us physicians to review what would appear to be exorbitantly high fees. Your choice of the word "range" in regards to usual and customary fees is appropriate, as there should be a range between the very best physicians and the very poorest physicians in their charges, but I am sure there are times when fees can get excessive.

I certainly agree with your point of view that unions are improper activities for physicians. Unions to me put us in the position of being employees, lending more support to the idea that we are working for the insurance companies and the governmental agencies, and are not accounting for the distasteful image it raises in my mind, as well as in the minds of our patients. South Carolina physicians have enjoyed a wonderful relationship with their patients, and to destroy this and bring on all the plagues of the written contract would make the practice of medicine exceedingly more burdensome, and remove a great deal of the happiness that makes the practice of medicine worth the work.

Thank you for your continued good work and for reading my letter.

Sincerely yours,  
Tommy B. Griffin, M.D.



## 50 YEARS AGO

April, 1923

The South Carolina Medical Association had shown 701 members in the previous December. Hospital standardization was being promoted. Hookworm infestation as a public health problem in the state was discussed. Spartanburg County Medical Society counted 50 members.

# CANCER TOPICS



## THE BREAST CANCER TASK FORCE OF THE NATIONAL CANCER INSTITUTE

PAUL H. O'BRIEN, M.D., F.A.C.S.\*

In early February of 1973, the first Annual Working Conference of the Breast Cancer Task Force of the National Cancer Institute took place in Williamsburg, Virginia. The Breast Cancer Task Force is a multidisciplinary compilation of epidemiologists, endocrinologists, nutritionists, pathologists, virologists, immunologists, molecular biologists, biochemists, cytologists, statisticians, medical oncologists, and cancer surgeons. The meeting was to summarize ongoing work supported by the National Cancer Institute under the newly enacted legislation and funding of the National Cancer program. The legislation and program recognize promising advances of cancer research which make it possible to formulate: the engineering of a safer environment and the identifications of those individuals who need increased attention because of their increased risk to develop breast cancer. It is an application of the convergent theory of research most successfully utilized previously in planning the Manhattan Project and the recent moon explorations.

A major section of the program was on the epidemiology of breast cancer. The increased incidence of breast cancer in the middle class American female was noted. Dr. Brian MacMahon, Harvard School of Public Health, has a prospective study wherein the relationship be-

tween estriol to estrone and estradiol is defined in that population of women which have a high risk of developing breast cancer.

It was interesting that women living in an environment where breast cancer was quite rare, such as Japan, would have relatively high concentrations of estriol compared to estrone and estradiol. When this Japanese female population came to the United States or Hawaii and lived in essentially western type middle class culture, the relationship of estriol to estrone and estradiol diminished. It would seem a rather exciting lead for screening women by estriol concentrations to define the population which has the highest risk of developing breast cancer.

Dr. Stanley Korenman, from the University of Iowa, felt that the high risk population of women who will develop breast cancer was based on the anovulatory cycle and that it was the breast not being regularly exposed to Progesterone which predisposed the breast towards neoplasia.

Both investigators have adequate funding and an adequate population to study. Their final results are eagerly awaited.

Extended studies on the isolation of viral particles from human milk specimens were presented. The incidence of RNA viruses in human milk has attained new significance with the definition of RNA transcriptase or the capacity of RNA to revert to DNA and, as in animal tumor systems, induce cancer. Analyses

\* Director of the Cancer Clinic, Medical University of South Carolina Professor of Surgery, Department of Surgery, Medical University of South Carolina, Charleston, South Carolina.

of some 1400 human milk specimens reviewed with the electron microscope were presented. It would seem there is more than one type of virus-like particle found in milk. The population of women who had blood relations with breast cancer contained a much higher incidence of viral particles in their milk than women who did not have a relationship to women with breast cancer. An enzyme system in milk which functions as an inhibitor or digester of RNA viruses has been defined. How many women have this enzyme in their milk is not known. If this inhibitor is widespread, it is understandable why viral particles should remain relatively rare in human milk. The definition of such an inhibitor and greater input into this important area are needed and ongoing.

The experimental biology program concentrated extensively on the very difficult problem of successfully growing breast cancer in tissue culture. A report by Etienne Y. Lasfargues reviewed a total of 110 human breast tumors processed in his laboratory with approximately 50 per cent successfully explanted. The problem is to separate the neoplastic cells embedded in the fibrocytic stroma and attain a cell line of breast cancer cells which will behave *in vitro* as *in vivo*. The advantages of such a system in screening hormone dependence, and ascertaining chemotherapeutic compounds, defining immunologic specificity are great. The necessary long term maintenance of cancer cells to date has not been accomplished without the infusion of cortisol, insulin, and other artificial materials which distort the *in vitro* tissue culture preparation of breast cancer from regularly behaving as its sister cells do *in vivo*.

In the area of diagnosis, presentations were made on ultra-sound mammography, thermography, and hoped for purification of an antigen from human mammary carcinoma. Ultrasound mammography and thermography seem to have bugs which must be worked out in the laboratory before being available for widespread

clinical screening.

The most exciting presentation was by Dr. Donald Marcus, of the Albert Einstein College of Medicine, who with immunoassay feels that he has a tumor associated substance which is, of course, separate and distinct from the previously described carcinoembryonic antigen or with  $\alpha_1$ -feto-globulin. It remains to be reaffirmed with more case input.

The last and major section of the program was on treatment. Prospective studies separating extended total mastectomy with radiation therapy versus radical mastectomy with and without radiation therapy are underway by Dr. Bernard Fisher. The input into these studies seems to be adequate so that a definitive statistical answer to some ancient and emotional controversies about treatment may be resolved.

Dr. J. L. Hayward presented studies on minimal surgery for early breast cancer from Guy's Hospital Unit in London. When the cancer was more extensive than had been suspected clinically, which was approximately 35 per cent of the time, less than radical resection of the cancer resulted in prompt recurrence and prompt appearance of diffuse metastasis. Those espousing simple extensive biopsy for breast cancer were felt to be devoid of any statistical or scientific base.

In summary, the National Cancer Institute has joined some thirty different medical institutions and some eighteen diverse scientific disciplines into a task force which hopefully can produce an adequate scientific input for prospective clinical studies which, documenting the basic scientists' observation, will: provide the definition of that population which has a high risk for breast cancer, develop techniques for diagnosing what we would now call subclinical cancer, and when diagnosed, have for the patient reproducible treatment methods of a scientifically proven superiority. The success of the program will, predominantly, depend upon the productivity and creativity of our basic science colleagues.





**E. Kenneth Aycock, M.D., M.P.H.**  
**Secretary and State Health Officer**

### STATE BOARD OF HEALTH NEWS

#### **"... THE GOVERNOR HAS CLOSED ALL STATE OFFICES"**

Two recent events have led physicians to inquire about the work schedule of the State Laboratory. The first was the closing of State offices on December 28, 1972 by Governor West in recognition of the death of former President, Harry S. Truman and the second, the closing of State offices on January 8 and 9, 1973 due to the snow storm.

Recently, the S. C. Legislature changed the working hours of all State employees from 6 days a week to 5 days per week with longer daily hours. This means that the State offices are now officially closed every Saturday.

However, this does not mean that *State Laboratory* personnel are not working. On every holiday and Saturday, and other occasions when necessary, personnel from this laboratory are performing essential duties. As is stated in the Handbook for Personnel of the Bureau of Laboratories, "the organisms of infectious disease do not share in our celebration of holidays". Cultures are transferred and initiated when indicated. The refrigerator which serves as a repository for animal heads for rabies examinations is inspected periodically when State offices are closed and the Virology Section is on call to examine brains when necessary.

It must be remembered that the majority of our specimens are delivered by mail. On holidays and during times when weather conditions require the closing of State offices, there are no mail deliveries. Therefore, during the recent closing precipitated by the snow storm, this laboratory did not receive specimens to process.

On Saturdays, laboratory personnel go to the U. S. Post Office to pick up all incoming mail. This is refrigerated, incubated or left at room temperature according to the requirements of the specimen involved. On Monday mornings, when the full working force arrives, routine specimens are then processed.

It has been brought to our attention that during certain times when State offices were officially closed, it was difficult to contact the Bureau of Laboratories by telephone. The Buildings and Grounds Division of the Budget and Control Board has found it more economical for the State to put individual telephone lines to each office and laboratory section rather than use a central switchboard. The Bureau of Laboratories has approximately 30 incoming telephone lines, which are directed to the individual laboratory, i.e., bacteriology, virology, toxicology, water laboratory, etc. Since the Bureau of Laboratories is a 30,000-square-foot, 3-story building, many times a telephone will go

unanswered unless the call is directed to the specific area where the personnel is working. Every telephone is not covered on days other than official working days, but only those in areas where essential work is being done. Also, these areas are staffed on these days only for the time required to perform the essential work, which may well be less than the 8:30 to 5 hours on official working days.

It is hoped that this information will guide laboratory personnel and physicians in two ways: (1) to serve as a guide to mailing specimens (i.e., one should limit those mailed on Friday afternoons), and (2) to inform you that even though the radio announces "all State offices are closed", your *State Laboratory* personnel are quietly at work processing your specimens.

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We have DISPLAYED at every S. C. State Medical Society Meeting since 1921, and advertised CONTINUOUSLY in the S. C. Journal since January 1920 issue.

**SOUTH CAROLINA MEDICAL ASSOCIATION  
HOUSE OF DELEGATES  
C. TUCKER WESTON, M. D., SPEAKER  
ORDER OF BUSINESS**

**Monday, May 14, 1973**

- 9:30 A. M.      Call to Order  
                  Invocation  
                  Report of Credentials Committee  
                  Opening Remarks by the President  
                  Introduction of President-Elect  
                  Announcement of Reference Committees  
                  Introduction of Special Guests  
                  Presentation of Resolutions and Recommendations  
10:30 A. M.      Introduction of Officers and Guests of Woman's Auxiliary

**Reports of Officers**

The President  
The President-Elect  
The Chairman of Council  
The Executive Secretary  
The Secretary  
The Treasurer  
The Editor of the Journal  
The Delegates to AMA

**Reports of Committees:**

(The reports of the Committees will have been published in the **Journal** and will not be read before the House. Any supplementary remarks by the Chairmen will be heard at this time.)

Report of State Board of Medical Examiners  
Report of the Executive Committee of the State Board of Health  
Unfinished Business  
    Amendments to the Constitution  
New Business  
Membership Meeting, South Carolina Medical Care Foundation

- 3:00 P. M.      **Meeting of Reference Committees**

(All members of the Association are invited to appear before the Committees considering matters in which they are interested. Meeting places will be posted and announced.)



**Wednesday, May 16**

9:30 A. M.      Call to Order  
Report of Memorial Committee  
Reports of the Reference Committees

11:30 A. M.      **Annual Elections**

**Officers**

President-Elect  
Vice President  
Secretary  
Treasurer

**Delegate to the A. M. A. (2-year term) :**

The term of Dr. John C. Hawk, Jr. expires December 31, 1973.

**Alternate Delegate to the A. M. A. (2-year term) :**

The term of Dr. C. Tucker Weston expires December 31, 1972.

**Speaker of the House (2-year term) :**

The term of Dr. C. Tucker Weston expires.

**Vice-Speaker of the House (2-year term) :**

The term of Dr. William H. Hunter expires.

**Councilors (3-year terms) :**

**Second District** — The term of Dr. Waitus O. Tanner expires. (1967)

**Fifth District** — The term of Dr. Halsted M. Stone expires. (1970)

**Eighth District** — The term of Dr. Randolph D. Smoak, Jr. expires.  
(1972)

**Members of the Mediation Committee (3-year term) :**

**Second District** — The term of Dr. Guy S. Heyl, Jr. expires. (1970)

**Fifth District** — The term of Dr. Max A. Culp expires. (1967)

**Eighth District** — The term of Dr. John W. Rheney, Jr. expires.  
(1967)

**Members of the Peer Review Committee (3-year terms) :**

**Second District** — The term of Dr. Paul T. Hopkins expires. (1971)

**Fifth District** — The term of Dr. Allen P. Jeter expires. (1971)

**Eighth District** — The term of Dr. James H. Gressette expires. (1971)

**Member of Benevolence Fund Committee (3-year term) :**

The term of Dr. V. Wells Brabham, Jr. expires. (1967)

**Member of State Board of Medical Examiners (4-year terms) :**

**First Congressional District** — The term of Dr. A. Richard Johnston  
expires.

**Third Congressional District** — The term of Dr. William P. Turner  
expires.

**Member of State Board of Nursing Examiners (5-year term) :**

The term of Dr. J. R. Allison, Jr. expires.

Selection of Place for 1976 Annual Meeting

Sine Die Adjournment

## SCIENTIFIC PROGRAM

May 15, 1972

8:30 - 9:30 A. M. — BREAKFAST

(For General and Specialty Groups)

ORANGE ROOM — Dr. Lois T. Ellison — Medicine, Lung Disease

Dr. George E. Block — Surgery

YELLOW ROOM — Dr. James W. Harkess — Orthopedics

BLUE-GREEN ROOM — Dr. John J. Canary — Endocrinology

Dr. S. Gilbert Blount, Jr. — Cardiology

### GENERAL PROGRAM

#### Blue-Green Room

10:00 A. M. Dr. James W. Harkess — Diagnosis & Treatment of Minor Orthopedic Complaints

11:00 A. M. Dr. Lois T. Ellison — New Ideas in the Management of Chronic Bronchitis and Emphysema

12:00 Noon Dr. John J. Canary — A Visual "Smattering" of Endocrinology

12:40 - 1:10 P. M. — Question and Answer

1:10 P. M. — ALUMNI LUNCHEON — Everyone Invited —  
First Floor Main Dining Room

2:30 P. M. Dr. George E. Block — Inflammatory Bowel Diseases

3:30 P. M. Dr. S. Gilbert Blount, Jr. — Differential Diagnosis of Obstruction to Outflow of Blood from Left Ventricle

4:10 - 4:30 P. M. — Question and Answer

### SPECIALITY PROGRAM

#### Orange & Yellow Rooms

10:00 A. M. Dr. S. Gilbert Blount, Jr. — Primary Pulmonary Hypertension

11:00 A. M. Dr. George E. Block — Carcinoma of the Thyroid

12:00 Noon Dr. James W. Harkess — Management of Supracondylar Fractures in Adults

12:40 - 1:10 P. M. — Question and Answer

1:10 P. M. — ALUMNI LUNCHEON

2:30 P. M. Dr. Lois Ellison — New Aids in Diagnosis of Lung Diseases

3:30 P. M. Dr. John J. Canary — An Approach to and Management of the Patient with Recurrent Kidney Stones

4:10 - 4:30 P. M. — Question and Answer

## SCIENTIFIC SPEAKERS

### Dr. George Edward Block



Dr. Block, a native of Joliet, Illinois, received his M.D. degree from the University of Michigan in 1951. He has been at the University of Chicago since 1960 and is presently Professor of Surgery and Coordinator of Education in Clinical Oncology there. He is certified by the American Board of Surgery and holds memberships in numerous professional societies. Dr. Block is doing research at this time on "Prediction of Breast Cancer Response to Adrenalectomy."

He received the American Heart Association Research Achievement Award and the American College of Cardiology Cummings Humanitarian Award. He has contributed numerous articles to medical publications and holds memberships in many professional organizations, including the American College of Cardiology, American Clinical and Climatological Association, the Editorial Board of the **American Heart Journal**, **American Journal of the Medical Sciences**, **American Journal of Cardiology** and the **Cardiologist Digest**.

He received the American Heart Association Research Achievement Award and the American College of Cardiology Cummings Humanitarian Award. He has contributed numerous articles to medical publications and holds memberships in many professional organizations, including the American College of Cardiology, American Clinical and Climatological Association, the Editorial Board of the **American Heart Journal**, **American Journal of the Medical Sciences**, **American Journal of Cardiology** and the **Cardiologist Digest**.

### Dr. John Joseph Canary



After his graduation from Georgetown University School of Medicine in 1951, Dr. Canary served internships and residencies at Memorial Hospital in Boston, Georgetown University Hospital in Washington, and Boston City Hospital, Boston

University in Boston. He became associated with the Georgetown University School of Medicine faculty in 1956 and is presently a Professor of Medicine and a Professorial Lecturer in Biochemistry at the University. Dr. Canary is certified by the American Board of Internal Medicine and belongs to numerous professional societies.

### Dr. S. Gilbert Blount, Jr.



Dr. Blount was born in Providence, Rhode Island, and graduated from Cornell University Medical College in 1943. He did additional work at Rhode Island Hospital, North Carolina Baptist Hospital, and Johns Hopkins Hospital. Dr. Blount has re-



**Dr. Lois Taylor Ellison**



Dr. Ellison was born in Georgia and received her M.D. degree from the Medical College of Georgia in 1950. She is a Professor of Medicine and Surgery and Director of the Cardiopulmonary Laboratory at the Medical College of Georgia. Dr. Ellison is a

member of the American and Georgia Heart Associations and Thoracic Societies. She is also a fellow in the American College of Chest Physicians.

**Dr. James W. Harkess**



A native of Edinburgh, Scotland, Dr. Harkess graduated from the University of Edinburgh and served internships in England and Scotland. His residencies were completed at Albany Hospital in New York and at the Eastern New York Or-

thopaedic Hospital. He is certified by the American Board of Orthopaedic Surgery and is the Kosair Professor of Orthopaedic Surgery at the University of Louisville School of Medicine. He is a member of the American Academy of Orthopaedic Surgeons and various other professional organizations.



## COMMITTEE ON SCIENTIFIC PROGRAM

- ← **M. Gordon Howle, M. D., Chairman**  
Lucien E. Brailsford, M. D., Spartanburg  
Joseph C. Ross, M. D., Charleston  
A. H. Hursey, M. D., Hartsville  
Walter Roberts, M. D., Columbia

**WOMAN'S AUXILIARY  
TO THE  
SOUTH CAROLINA MEDICAL ASSOCIATION**  
*Golden Anniversary Convention*

Headquarters	— OCEAN DUNES MOTOR INN 74th-75th Avenue North Myrtle Beach, S. C.
Convention Chairmen	— Mrs. Julian Buxton, Mrs. Peter Gazes, Mrs. Phanor Perot
Publicity Secretary	— Mrs. Arthur LaBruce

**Monday, May 14**

Pine Lakes International Country Club

**ANNE WORSHAM RICHARDSON**

South Carolina Bird Artist

Exhibition During Luncheon Thru Plantation Feast

**CHAMPAGNE FASHIONS**

By John Baldwin of South Carolina and Florida

Following Luncheon

**PLANTATION FEAST**

A South Carolina Feast Under The Stars

**HUSBANDS ENCOURAGED TO ATTEND!!**

Reservations Limited — Mail Following Pre-Registration Form At Once!

**SOUTH CAROLINA DAY**

**Luncheon Speaker**

**ANNE WORSHAM RICHARDSON**

A native of Clarendon County near Turbeville, Miss Richardson has lived in Charleston since she was 16 years old and maintains a wildlife sanctuary outside her studio, which is located across The Ashley River from Charleston, S. C.

Her work is the first of a South Carolina artist ever to be selected by National Wildlife Federation, Washington, D. C. to receive the "Art Print of The Year Award." Ten of her paintings have been reproduced on National Wildlife Christmas cards. The number one print of the "Pileated Woodpecker" was sold at an auction for \$1100 by the Columbia Audubon Society and donated by the artist to help in conservation projects in South Carolina, including the purchase and preservation of Four Hole Swamp.

Exhibitions with 35 to 76 paintings have been shown in the Gibbes Art Gallery; The Columbia Art Museum; The Berkshire Museum, Pittsfield, Mass.; Kennedy Galleries, New York; Pinecroft Hall, Penn.; The Gallery, Spartanburg, S. C.; The Columbus Museum of Art, Columbus, Ga., California Museum of Science and Industry, Los Angeles; and Harbortown Museum, Hilton Head, S. C. The largest exhibit of her work which was 76 paintings by the S. C. native was in the California Museum of

Science and Industry, Los Angeles in the fall of 1970. A second exhibit in 1972 was held over for four months and Miss Richardson was honored with an Award of Commendation from the State of California on July 17, 1972.



**PRE-REGISTRATION FORM**

**GOLDEN ANNIVERSARY YEAR CONVENTION  
WOMAN'S AUXILIARY TO THE SOUTH CAROLINA  
MEDICAL ASSOCIATION**

**May 13 - 16, 1973**

**HEADQUARTERS:** Ocean Dunes Motor Inn, 74th - 75th Avenue North  
P. O. Box 2035, Myrtle Beach, S. C.

Please print or type

Name \_\_\_\_\_ First name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ S. C. Zip \_\_\_\_\_

Where staying in Myrtle Beach \_\_\_\_\_

Check Desired Activity and Include Check.

Monday, May 14, 1973

- 12 noon, Pine Lakes International Country Club  
☐ The S. C. Day Luncheon .....\$5.00 per person  
7:30 p.m. Pine Lakes International Country Club  
☐ Plantation Feast and Cocktails .....\$12.00 per person

**HUSBANDS ENCOURAGED TO ATTEND!!**

Tuesday, May 15, 1973

- 12 noon, The Dunes Golf and Beach Club  
☐ The Golden Anniversary Luncheon .....\$5.00 per person  
Registration Fee for all Members .....\$1.00 per person

Reservation form with check should be mailed prior to May 1, 1973, to:

Mrs. Peter C. Gazes  
21 Country Club Drive  
Charleston, S. C. 29412

Tickets will be held in your pre-prepared kit at the PRE-REGISTRATION desk in the second lobby of the Ocean Dunes Motor Inn.

Check if attending:

Monday, May 14, 1973—Ocean Dunes Motor Inn

- ☐ 8:30 a.m. — Complimentary CONTINENTAL BREAKFAST

Tuesday, May 15, 1973 — Ocean Dunes Motor Inn

- ☐ 8:30 a.m. — Complimentary CONTINENTAL BREAKFAST



# WOMAN'S AUXILIARY TO THE SOUTH CAROLINA MEDICAL ASSOCIATION

## Convention Program May 13-15

Headquarters: Ocean Dunes Motor Inn, Second Lobby

### Sunday, May 13, 1973

3:00 P.M. - 5:00 P.M.

REGISTRATION & PRE-REGISTRATION  
Information & Tickets  
Transportation

### Monday, May 14, 1973

#### SOUTH CAROLINA DAY

8:30 A.M. - 11:30 A.M. **ONLY**

REGISTRATION & PRE-REGISTRATION  
Information & Tickets  
Transportation  
Headquarters

8:30 A.M. - 10:00 A.M.

Continental Breakfast (Complimentary)  
Headquarters

10:30 A.M.

Executive Board Meeting  
Pine Lakes International Country Club  
Colonial Room

12:00 Noon

Sherry

12:30 P.M.

South Carolina Day LUNCHEON  
Pine Lakes International Country Club  
Dining Room  
Husbands Invited

Guest Speaker: Anne Worsham Richardson  
South Carolina Bird Artist  
Slides & Exhibit

Special Guest: Mrs. Erle E. Wilkinson  
President of The Woman's Auxiliary to The  
Southern Medical Association bringing us  
greetings from Southern Medical

Champagne Fashions by John Baldwin of South Carolina &  
Florida

7:30 P.M.

PLANTATION FEAST  
Pine Lakes International Country Club  
Art Exhibit by Anne Worsham Richardson

7:30 P.M. - 8:30 P.M.

Cocktails

8:30 P.M.

Dinner  
Strolling Musicians

Tuesday, May 15, 1973

GOLDEN ANNIVERSARY DAY

- 8:30 A.M. - 10:30 A.M. **ONLY** REGISTRATION & PRE-REGISTRATION  
Information & Tickets  
Transportation  
Headquarters
- 8:30 A.M. - 10:00 A.M. Continental Breakfast (Complimentary)  
Headquarters
- 10:30 A.M. - 12 Noon General Meeting  
The Dunes Country Club
- Noon Sparkling Wine  
The Dunes Country Club
- 12:30 P.M. Golden Anniversary LUNCHEON  
The Dunes Country Club
- Guest Speaker: Mrs. Virgil Ray Forester  
Southern Regional Vice-President of The  
Woman's Auxiliary to The American Medi-  
cal Association
- Past Presidents Honored  
Door Prizes
- 2:30 P.M. - 3:30 P.M. Post Convention Board Meeting  
The Dunes Country Club
- 7:00 P.M. Cocktails — South Carolina Medical Association  
Convention Center, Second Floor Lobby
- 8:00 P.M. South Carolina Medical Association Annual Banquet  
Convention Center, First Floor  
Edward F. Parker, M. D. Presiding
- Guest Speaker: Mr. Mark Russell,  
widely known humorist, lecturer, musician  
and pungent commentator on The Washing-  
ton Scene
- Honoring The 50th Anniversary of The Woman's Auxiliary  
to The South Carolina Medical Association

**P. S.** Please be sure to show this issue to your wife!

## REPORTS OF COMMITTEES

### **Advisory Committee To The Crippled Children's Society**

This Committee continues to function as a standby group and held no meeting this year. A meeting is planned for the time of the coming annual convention. The chairman attended a session of the State Easter Seal Professional Advisory Council in Columbia on September 28, 1972.

Joseph I. Waring, M.D.  
Chairman

### **Advisory Committee to The South Carolina Vocational Rehabilitation Department**

(Subcommittee of the Committee on Cooperative Activities)

The Medical Advisory Committee to the Vocational Rehabilitation Department held its scheduled meeting February 22, 1973, in Columbia, South Carolina, with Dr. John K. Webb, presiding. Members of the committee present were: Dr. Albert F. Aiken, Dr. Richard M. Christian, Dr. Roy E. Hudgens, Jr., Dr. Roland M. Knight, Dr. Harry J. Metropol, Dr. Ben N. Miller, Dr. Joseph H. Miller, Dr. Robert N. Milling, Dr. J. Howard Stokes, Dr. John K. Webb, and Dr. A. Frank Weir, Jr. Supporting members of the Vocational Rehabilitation Department attending were: Dr. Dill D. Beckman, Commissioner; Mr. Joe S. Dusenbury, Assistant Commissioner, Field and Case Services; Mr. T. E. Ringer, Jr., Assistant Commissioner, Administration and Special Services; Dr. Robert E. Brabham, Chief Psychologist; Mr. C. J. Collins, Supervisor, Rehabilitation Services Division; Mr. B. J. Marett, Supervisor, Disability Determination Division; Mr. George L. Cleckler, Division Supervisor, VR-PS Program; and Miss Willie Bush Deason, Staff Assistant.

The Chairman recognized Dr. Beckman.

Dr. Beckman discussed the financial situation including legislation. Early last year, it appeared that Federal legislation (1972 Rehabilitation Act) would make it possible

for Rehabilitation to serve more of the severely disabled and aged by providing special moneys to help them to become able to take care of themselves; but, the President vetoed the 1972 Act. We are now operating on a reduced budget and probably will not know until June just what our budget will be. We help some of the spinal severely handicapped cases but have to limit our services to those with a reasonable chance of employment. Also, those cases needing dialysis treatment require a great deal of money. Although, an act passed by the South Carolina State Legislature designated the Medical University of South Carolina as the agency for the purchase, distribution and administration of hemo-dialysis machines for the treatment of kidney diseases, Rehabilitation receives a number of requests for the follow-up period and for other services.

As of July 1, the Disability Determination Division of Vocational Rehabilitation will be responsible for Title XVI. The Disability Determination Division will need local offices in Greenville, Charleston, and Columbia in addition to the Columbia State Office. Title XVI changes the criteria from that used by Welfare for those cases on Welfare for total and permanent disability to that used by the Disability Determination Division for applicants for Social Security. The Disability Determination Division will have to purchase the medical information needed to make the determinations and this will mean a great increase in the number of medical evaluations they will need. We will depend on you and the Medical Association.

Dr. Webb discussed rehabilitation facilities in Greenville. The Rehabilitation program in Greenville has grown from just a few counselors in the Greenville office to a number of counselors and specialists there and in other locations. For instance, Laurens County now has two counselors. Greenville has a rehabilitation workshop which helps





Harold Hope, M. D.  
President-Elect

with exaluation, training, and placing the handicapped. Before the Greenville General Hospital had the Cardiopulmonary Laboratory, anyone needing these services had to be sent out of town, but now this laboratory serves two other counties. Some of the equipment was furnished by Vocational Rehabilitation. Rehabilitation has an alcoholic center and a counselor in the Marshall I. Pickens Mental Health Hospital. Dr. Webb said that he had asked Dr. Roland Knight to talk about the new rehabilitation hospital for paraplegics and other facilities with which he was involved and that Dr. Knight would discuss them at this time.

Dr. Knight stated that the Greenville Memorial Hospital and Roger C. Peace Institute of Rehabilitative Medicine opened in November 1972 and Rehabilitation has a counselor in this hospital. They have a urological consultant. This hospital has helped to shorten hospital stay. The Amputee Clinic, Spinal, and Hand and Arm Clinic have all helped in rehabilitating the handicapped. Rehabilitation funds helped to make these facilities available. The training provided by these facilities has limited the time

needed in adjusting to handicaps. The team concept means a great deal at the Amputee Clinic. The Amputee Clinic has helped develop a better criteria for buying limbs. Those at the Amputee Clinic have profited from what they have learned from others in the State.

John K. Webb, M.D.  
Chairman

Subcommittee: Medical Advisory Committee to Vocational Rehabilitation Agency

Dr. John K. Webb, Chairman	Greenville
Dr. Albert F. Aiken	Charleston
Dr. E. Kenneth Aycock	Columbia
Dr. Richard M. Christian	Greenwood
Dr. Roy E. Hudgens, Jr.	Florence
Dr. Roland M. Knight	Greenville
Dr. Malcolm L. Marion	Chester
Dr. Harry J. Metropol	Columbia
Dr. Ben N. Miller	Columbia
Dr. Joseph H. Miller, III	Columbia
Dr. Robert N. Milling	Columbia
Dr. J. Howard Stokes	Florence
Dr. Charles P. Summerall, III	Charleston
Dr. A. Frank Weir, Jr.	Spartanburg

#### Advisory Committee to the Woman's Auxiliary

There has been no occasion during the year for a formal meeting of this committee. Advice has been requested and given on several occasions. The two organizations continue to work together as an Association and its Auxiliary.

J. Ray Ivester, M.D.  
William P. Turner, M.D.  
Leonard W. Douglas, M.D.

#### Committee on The Constitution and By-Laws

The standing committee on The Constitution and By-laws of the South Carolina Medical Association has received no referrals for our consideration this year. Therefore the full committee on Constitution and By-laws has not met.

One amendment to the Constitution that was placed on the table at the meeting of The House of Delegates last year will be voted upon by the delegates at this annual meeting in May of 1973. The proposed

amendment is to change the section in the Constitution and remove the president of Blue Shield as an automatic member of the Council of the South Carolina Medical Association.

A second amendment proposed to the Constitution, presented and laid on the table last year, will be up for consideration by the House of Delegates. This would amend Article V. Section 1, by adding at the end of said section the words ('and (9) the President of the Senior Class of the College of Medicine at the Medical University of South Carolina.')

J. Gavin Appleby, M.D.  
Chairman

#### **Committee on Emergency Medical Services**

The South Carolina Medical Association Council in cooperation with the Chairman of the Emergency Medical Services Committee has come up with a strong functioning committee. This committee was curtailed in 1972 through nonattendance of members. Interested, active members are now functioning.

#### **Minutes of The Committee on Emergency Medical Services**

Dr. Edmund Taylor, Chairman of the S.C.M.A. EMS Committee called this meeting to order on February 17, 1973 at 11:00 a.m. This meeting was jointly sponsored by The South Carolina Medical Association and The American College of Surgeons Committee on Trauma.

In attendance from the S.C.M.A. Committee on EMS were: Drs. Edmund Taylor, Hiram Curry, William Armstrong, Max Rittenbury, Emmett Lunceford, and Mr. Richard Pugh, Staff member.

In attendance from the American College of Surgeons Committee on Trauma were: Drs. James Forrester, Lawrence Fredrick, Dabney Yarbrough, Henry Frierson, W. J. Goudelock, William Finlayson, and General Barnick.

The Chairman pointed out that the purpose of this meeting was to consider the overall emergency medical services situation in South Carolina and, especially, the \$3.25 million Governor West has mentioned being

spent on Emergency Medical Services. There was the general impression that this money was to be spent within one year.

Invited to attend but not on one of these committees were: Miss Libby Alford (South Carolina Hospital Association), Generals Barnick and Ashworth (S. C. Highway Safety Program), D. H. Robinson, M.D., (State Board of Health), William Finlayson (Governor's Health Council) Robert McCordle, M.D., E. A. Bradley, Jr., M.D., Jack Gottlieb, Harvey Wickwar, and Donald Logan.

Dr. Taylor asked several of the invited guests to comment concerning priorities of an emergency medical services program. Miss Alford said that the Hospital Association had clearly defined the emergency room categories. She put considerable emphasis on advanced training for emergency medical technicians.

General Barnie Barnick gave a brief outline of the work his group has been doing over the past two years. His group has been responsible for up-grading ambulances and training of attendants. To date his activities have been confined to individual counties throughout the state with no statewide orientation at this point. He strongly recommended that any new proposals should consider working on a statewide basis. The General also suggested that any overall EMS program would have to have some reasonable chances for success in terms of reducing deaths that are occurring in the area of highway accidents, medical emergencies, trauma, etc. He gave a general description of the financing of his organization and was requested to provide the committee with this information for possible publishing in the JOURNAL of the South Carolina Medical Association.

Dr. Donald Robinson of the State Board of Health outlined plans his agency has in EMS. He pointed out that the Governor has requested that his department submit a budget for the expenditure of \$3.25 million for a one year program. (Funds to be disbursed on a non-recurring basis.) A budget has been presented to the Governor proposing that these funds be used to purchase

108 ambulances and other EMS equipment. Dr. Max Rittenbury questioned the proposal to spend this sum in just one year. He cited the problems connected with purchasing ambulances and equipment to be placed in the hands of untrained and unqualified personnel. He suggested that the S.C.M.A. Committee go on record supporting the expenditure of these tax funds only with a clear plan for the future in mind. Dr. Robinson stressed the inadequacy of present public health staff to properly designate and utilize this large amount of money in one year and advised considerable planning on how this appropriation should be spent before spending it. There was general agreement that a "go slow" policy on spending this money with proper planning would be advisable.

Mr. Finlayson, a member of the Governor's Health Council was asked to fill the group in on the newly formed body. He stated that the Governor had picked each member of the Council and had stayed away from selecting representatives from organized groups such as Nurses Association, Hospital Association, Medical Association, etc. All federal funding coming into the state for health care will pass before this Council for approval, thus making it a very important body.

Further discussion centered around where such an EMS agency might be located. Mr. Finlayson suggested that consideration be given to the Regional Medical Program since this body is to be phased out in July and may be seeking new areas of service. Mr. Pugh suggested that the South Carolina Medical Association Foundation for Medical Care should also be considered. Dr. Rittenbury pointed out the advantages of having such an agency responsible directly to the Health Council with the State Board of Health being the regulatory agency.

Priorities as defined by the point committee:

1. Planned utilization for funds. Consider not limiting the spending of the \$3.25 million to one year.
2. Develop local funding mechanisms. Any projects that are started by this appropriation should be sustained by local

## PREScribing INFORMATION

### Antiminth (pyrantel pamoate) Oral Suspension

**Actions.** Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13 µg/ml.) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

**Indications.** For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

**Warnings. Usage in Pregnancy:** Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

**Precautions.** Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

**Adverse Reactions.** The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

**Dosage and Administration. Children and Adults:** Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg. of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lb. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

**How Supplied.** Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg. pyrantel base per ml., supplied in 60 cc. bottles.

**ROERIG** 

A division of Pfizer Pharmaceuticals  
New York, New York 10017



# Clean Sweep



## with a single dose of Antiminth

(pyrantel pamoate) ORAL SUSPENSION

Highly effective against  
pinworm and roundworm

Non-staining to teeth  
or oral mucosa on ingestion, to  
stools, clothing, linen

Simple dosage with a  
single-dose regimen: 1 cc. per  
10-lb. body weight (1 tsp./50 lb.;  
maximum dose, 4 tsp.)

Well-tolerated, based on  
clinical studies\*

Pleasant-tasting, easy-to-  
take, caramel-flavored oral  
suspension

Economical, because one  
prescription can treat the entire  
family

**ROERIG** *Pfizer*

A division of Pfizer Pharmaceuticals  
New York, New York 10017

# ANTIMINTH<sup>®</sup>

## (pyrantel pamoate)

equivalent to 50 mg. pyrantel/ml.

ORAL SUSPENSION

While Antiminth is highly effective against pinworms and roundworms, the illustration is not meant to imply 100% efficacy.  
\*Data on file at Roerig. Please see prescribing information on facing page.

"WHEN YOUR BACK FEELS GOOD YOU'LL FEEL GOOD"

# SEALY POSTUREPEDIC® LATEX FOAM

## A Unique Back Support System

Extra deep, 5½" Sealy Durolife core teamed with patented torsion bar foundation gives firm support that's designed in cooperation with leading orthopedic surgeons. "No morning backache from sleeping on a too-soft mattress."

**POSTUREPEDIC IMPERIAL LATEX FOAM**  
QUEEN SIZE 60x80" 2-pc. set \$329.95  
KING SIZE 76x80" 3-pc. set \$429.95

**\$219<sup>95</sup>**

Twin or full size, 2-pc. set



*"No morning backache from sleeping on a too-soft mattress."*

**SEALY OF THE CAROLINAS, INC.**  
(a division of the 70-year old Peerless Mattress Co.)

Lexington, N. C.  
Charlotte, N. C.  
High Point, N. C.

Asheville, N. C.  
Greenville, N. C.  
Columbia, S. C.

*"sleeping on a Sealy is like sleeping on a cloud"*



Wolf Laurel doesn't promise an 18-hole golf course, a ski run, tennis courts, waterlines, roads or utilities. It doesn't have to. They're already built. Wolf Laurel has a championship golf course with the highest hole east of the Rockies. Plus a 3-lift ski run complete with ski lodge. Also, about 4 miles of asphalt roads and 30 miles of gravelled roads with waterlines and utilities available to all homesites.

You'll find a variety of beautiful homesites to choose from. Come see for yourself. It's just 27 miles north of Asheville, North Carolina on U.S. Highway 23. Dine at the mountaintop restaurant and lounge at 4600'. Stay at the Wolf Laurel Inn or one of the rustic cabins. For reservations and/or free brochure, write Wolf Laurel, Dept. SCM, Route 3, Mars Hill, North Carolina. Come see what Wolf Laurel doesn't promise. You'll like it. (Ad 7103a)



**Wolf Laurel is a  
different kind of  
second home resort  
because of what it  
doesn't promise.**



funding so they can survive.

3. Regionalization. Set up governmental systems making emergency medical services financially sound. For example an indigent patient sent from one county to another county with a well equipped emergency room and trauma division should have his medical care financed through some regional system.
4. Training of emergency medical personnel and provisions for communications equipment need further firming up by legislation.
5. Communications. A further study of local and statewide communications systems is needed. Communications between the ambulance in the field and hospitals is fundamental.
6. The principle of helicopter transportation was endorsed on condition that it could be financially feasible. It will probably be necessary to combine emergency medical services with law enforcement duties to make this feasible.

Physicians throughout the state on EMS committees of hospitals, County Medical Societies, Comprehensive Health Planning Councils, State Board of Health committees, and special committees of Governor West should all become active. It was the consensus of the group that physicians will be responsible for running whatever system of EMS the state adopts. Physicians input is needed and communications with government must be kept open.

The next meeting of the EMS Committee of the S. C. Medical Association is tentatively set for Saturday, March 31, 1973, at the Richland Memorial Hospital in Columbia.

Edmund R. Taylor, M.D.  
Chairman

#### **Committee on Industrial Medicine**

One of our members, Dr. James F. Dusenberry, attended the 32nd Annual Occupational Health Congress in Chicago, September 10, 11, 12, 1972, and submitted a detailed report to our committee at our regular meeting, September 13, 1972. This report was published in the November issue of this

Journal. Another one of our members, Dr. Allen Slone attended the New Worker's Compensation Seminar in Myrtle Beach, August 18, 19, and 20th and submitted a rather detailed report which we discussed at our regular meeting in September. Our committee met shortly with the commissioners of the South Carolina Industrial Commission for a rather informal dinner meeting in Columbia, November 8. At this meeting, a number of problems relating to specific cases under the Worker's Compensation Law in our state were discussed, and it was the general feeling that this meeting, which is held annually, prompts a better understanding of the day to day problems with Worker's Compensation cases and has helped to achieve a much better working relationship with the South Carolina Industrial Commission.

W. J. Goudelock, M.D.  
Chairman

#### **Committee on Medical Aspects of Sports**

Under the auspices of the South Carolina Medical Association and the South Carolina Orthopaedic Association in conjunction with the Coaches' Athletic Association a Sports Medicine Seminar was held in August, 1972, in an effort to further promulgate information to the various coaches throughout the state concerning athletic injuries and their management. An ongoing educational program is still being maintained and hopefully will continue to receive enthusiastic support from the coaching profession.

Attempts to develop and maintain interest in athletic medicine among members of the South Carolina Medical Association have been less rewarding than among those of the coaching profession. The committee is desirous of including some papers on athletic injuries in the format of the South Carolina Medical Association meeting each year, and would like to have serious consideration given to this method of approach by the Program Committee.

The committee further requests that the South Carolina Medical Association continue to endorse the efforts of the Sports Medicine Committee and allow its continued function.





Kenneth N. Owens, M. D.  
Vice-President

Plans are being formulated for another meeting with the Coaching Clinic held annually in Columbia.

E. M. Lunceford, M.D.  
Chairman

#### Committee on Medicine and Religion

The committee again organized, with the Alcoholism and Drug Addiction Committee, a two-hour panel discussion on the subject of "Interpersonal Relationships and Drug-Alcohol Abuse" as a part of the Annual meeting of South Carolina Medical Association in May. Dr. Thomas H. McDill of Columbia Theological Seminary presented a paper on the subject and responses were given by Rev. William Bishop of Kingstree, Chaplain Archie Reed of Addiction Center, Columbia, and Doctors Harold Moody (Spartanburg) and Hunter Rentz (Columbia). Dr. Hiran B. Curry moderated and Dr. Jimmie Carpenter participated as a member of the Committee.

The Committee met in Columbia on February 3, at which time plans were made for a prayer breakfast during the 1973 Annual meeting of S.C.M.A. Also, it was agreed that the medicine and religion function could best be promoted through regional efforts

**Description:** CANDEPTIN (candidin) Vaginal Ointment contains a dispersion of candidin powder equivalent to 0.6 mg. per gm. or 0.06% Candidin activity in U.S.P. petrolatum. 3 mg. of Candidin is contained in 5 gm. of ointment or one applicatorful. CANDEPTIN Vaginal Tablets contain Candidin powder equivalent to 3 mg. (0.3%) Candidin activity dispersed in starch, lactose and magnesium stearate. CANDEPTIN VAGELETES Vaginal Capsules contain 3 mg. of Candidin activity dispersed in 5 gm. U.S.P. petrolatum.

**Action:** CANDEPTIN Vaginal Ointment, Vaginal Tablets, and VAGELETES Vaginal Capsules possess anti-monomial activity.

**Indications:** Vaginitis due to *Candida albicans* and other *Candida* species.

**Contraindications:** Contraindicated for patients known to be sensitive to any of its components. During pregnancy manual Tablet or VAGELETES Capsule insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.

**Caution:** During treatment it is recommended that the patient refrain from sexual intercourse or the husband wear a condom to avoid re-infection.

**Adverse Reaction:** Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment, Vaginal Tablets or VAGELETES Vaginal Capsules have been extremely rare.

**Dosage:** One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet or one VAGELETES Vaginal Capsule is inserted high in the vagina twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.

**Available Dosage Forms:** CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil with inserter—enough for a full course of treatment. CANDEPTIN VAGELETES Vaginal Capsules are packaged in boxes of 14 (14-day regimen requires 2 boxes.)

Store under refrigeration to insure full potency.

Federal law prohibits dispensing without prescription.

**References:** 1. Olsen, J.R.: *Journal-Lancet* 85: 287 (July) 1965. 2. Giorlando, S.W.: *Ob/Gyn Dig.* 13: 32 (Sept.) 1971. 3. Decker, A.: Case Reports on File, Medical Department, Julius Schmid. 4. Giorlando, S.W., Torres, J.F., and Muscillo, G.: *Am. J. Obst. & Gynec.* 90: 370 (Oct. 1) 1964. 5. Lechevalier, H.: *Antibiotics Annual* 1959-1960. New York, Antibiotics Inc., 1960. pp. 614-618. 6. Friedel, H.J.: *Maryland M.J.*, 15: 36 (Feb.) 1966.



Julius Schmid Pharmaceuticals  
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**CANDEPTIN®  
(candidin)**

**Vaginal Tablets**

**Vaginal Ointment**

**and VAGELETES™  
Vaginal Capsules**



# These are Candeptin:

The highly effective candidin  
for all your vaginal moniliasis patients.

First came CANDEPTIN (candidin) Tablets for intravaginal use. Then CANDEPTIN Ointment to treat labial involvement and for intravaginal use. Now unique **CANDEPTIN VAGELETTES**—candidin ointment in soft gelatin capsules—extend the range of CANDEPTIN therapy to even your pregnant and virginal patients (you merely cut off the narrow tip and extrude the contents through the intact hymen).

#### Clinical proof of potency

CANDEPTIN brings your patients prompt relief of itching, burning and discharge—usually within 72 hours.<sup>1</sup> A single, 14-day course of treatment is usually all that's needed for a complete cure.<sup>2,3,4</sup>

Significantly more potent *in vitro* than

nystatin.<sup>5</sup> CANDEPTIN Tablets and Ointment have shown clinical cure rates of 90% and higher in both pregnant and non-pregnant patients.<sup>1,4,6</sup> And in recent studies of **CANDEPTIN VAGELETTES** Vaginal Capsules involving both pregnant and non-pregnant patients, a 100% culture-confirmed cure rate was achieved with a single 14-day course of therapy.<sup>2,3</sup>

Only CANDEPTIN gives you a dosage form for every therapeutic need, plus *eight years'* clinical proof of potency. Consider CANDEPTIN for your next vaginal moniliasis patient.

## **CANDEPTIN<sup>®</sup>** (candidin)

## PAYMENTS TO PHYSICIANS - PART I

Blue Shield uses two different and unrelated methods of payment for physician's services. One is the "fixed" payment method. The other is payment based on physician's charges. This is an explanation of the "fixed" payment method, also known as the relative value payment.

Most procedures and services listed in the Physician's Manual have an assigned relative value that indicates the benefit value of each procedure in relation to the value of other procedures listed.

The relative value, multiplied by the conversion figure for each payment schedule, produces the benefit payment for the service. For example:

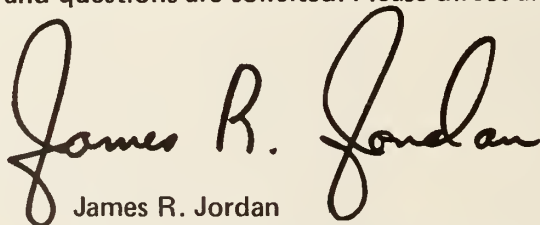
<u>Procedure Code</u>	<u>Relative Value</u>	<u>Conversion Per Payment Schedule</u>	<u>Payment to Physician</u>
200 2993	16	\$4.25	\$ 68.00 (Payments for surgery are rounded off to the nearest \$5.
200 3261	36	4.25	153.00
200 3375	25	4.25	106.25 Payments for anesthesia are rounded to the nearest \$1).

The conversion factor of \$4.25, as in the example, may alternatively be \$3.25, \$3.75 or \$5.50, depending on the level of benefits purchased by the Blue Shield subscriber. This explains how two subscribers treated by the same physician for the same service may be entitled to different payments made for that service.

The benefit payment is determined as in the example (with a conversion factor of \$3.25, \$3.75, \$4.25 or \$5.50) regardless of the physician's charge. The physician may bill the subscriber for the difference between the relative value payment and the actual charge, unless the subscriber is, by reason of low family income, eligible for paid in full service on a participating basis, at the relative value payment rate.

Payments to Physicians - Part II will concern itself with payment based on physician's charges -- the "Usual and Customary" payments. It will be covered in the next issue.

Your comments and questions are solicited. Please direct all comments and queries to ----



James R. Jordan  
Director of Professional Relations  
Blue Cross and Blue Shield of South Carolina



*"The history of science, and in particular the history of medicine... is... the history of man's reactions to the truth, the history of the gradual revelation of truth, the history of the gradual liberation of our minds from darkness and prejudice."*

*—George Sarton, from "The History of Medicine Versus the History of Art"*

**Are there significant  
differences in bioavailability  
and clinical predictability  
among drug products?**

**Opinion**

Results of a questionnaire to  
7,000 physicians:

**44.6%**  
Agree there is a significant  
difference

**24.9%**  
Believe there is no difference

**30.5%**  
Had no opinion

# Are there significant differences in bioavailability and clinical predictability among drug products?

## Teacher of Medicine

Alfred Gilman, Ph.D.  
Wm. S. Lasdon  
Professor & Chairman  
Department of  
Pharmacology  
Albert Einstein  
College of Medicine of  
Yeshiva University



I think that there can be a very great distinction between generic drugs and brand name drugs. And that applies to products of original research that have outlived their patent protection as well as to drugs that have long been in the public domain. Let me explain why.

### The Importance of the Manufacturing Environment

In terms of formulation, quality control, and the ability to reproduce an essentially identical product, batch after batch, I doubt that many firms are properly equipped to put out a product that is as carefully controlled as the product marketed by a pharmaceutical company with sophisticated research and high quality manufacturing facilities. For example, when a company comes out with its own preparation of a drug that has just lost its patent protection, there is no assurance that the drug it produces will be a therapeutic equivalent. The raw material could be identical and yet bioavailability might vary from complete unavailability to that which is equivalent to the original.

### It Isn't Enough to Meet USP and NF Standards

Meeting USP and NF standards is not enough to guarantee therapeutic equivalence. In certain instances, stricter standards must be applied. Right now, the New York Heart Association has a committee that is studying the problem of digoxin equivalent

lency. I am certain that they are going to recommend a bioavailability assay of a particular digoxin. Unless this is done, they will not recommend it for purchase or use in New York City hospitals. It represents too much of a hazard. They have gone so far as to recommend a batch-by-batch certification of bioavailability even though the company has been reproducing and marketing a digoxin product through the years.

### The Problem of Controlling Bioavailability of Generics

The FDA does not have the manpower to inspect the quality control capabilities of hundreds of houses specializing in generic products. And I don't think that the average pharmacist is knowledgeable or aware of the quality and bioavailability of the infinite numbers of generic preparations. A recommendation has been made that every time a generic house (or for that matter a large pharmaceutical company) markets an already existing drug for the first time, a modified new drug application should be submitted. The manufacturer would have to show that his compound is the therapeutic equivalent of the standard compound in use, assuming that the standard compound is one that has been available for an extended period—say 15 years. This would be one indication that the control of bioavailability is beginning to get the attention that it deserves.

### Clinical Predictability More Important Than Price

Although the question of price has been greatly exaggerated, it is true that patients can on occasion save money on generic drugs. But you are not going to dare attempt to save money if it jeopardizes the patient's health. Let's return to the example that has become very prominent in recent years, that of the cardiac glycosides. These are probably the most toxic drugs we use with respect to the small difference between a maximally effective dose and a toxic dose. When you are dealing with drugs of this type, the first concern must be clinical predictability. At the risk of variations in bioavailability, it would be sheer folly to try to save the patient what might amount to maybe \$10 or \$20 a year. The physician cannot manage his patient unless he is sure that the drug he is prescribing has the same positive effect each time the prescription is renewed. This is especially significant when the patient takes the product, not for months but for the rest of his life.

## Maker of Medicine

C. J. Cavallito, Ph.D.  
Executive Vice President  
Ayerst Laboratories



minimize nonequivalence of drug components produced by different manufacturers. Arguments relate largely to the extent of product inequivalences. Experience over the past six years has uncovered a greater incidence of nonequivalence of products prepared by different manufacturers from generically equivalent substances than many had previously surmised.

### Newer Bioavailability Studies Reveal Differences

Bioavailability may be defined as a measure of the rate and amount of absorption of a drug substance from its administered dosage form. For several years pharmaceutical scientists have proposed that bioavailability data on presumably equivalent dosage forms provide the best measure of product equivalence—short of adequate clinical trial. In their continued search for shortcuts to the evaluation of product equivalence, medical and pharmaceutical scientists have increasingly relied upon bioavailability characteristics as reflected by blood levels of a drug after its administration to human subjects.

Leading manufacturers now conduct comparative bioavailability studies on their own product dosage forms after production process changes that would have been considered inconsequential a few years ago. This isn't surprising, since there are so many possible differences in production operations that the opportunities for inequiva-

lent generic and brand name products are numerous—even when the production process begins with identical chemical substances. Moreover, reputable manufacturers are striving to improve *in vitro* control measures, such as dissolution characteristics, which are being related more meaningfully to bioavailability reference data.

As a result of advances in scientific instrumentation and analytical methodology which permit measurements of small quantities of drug substances in the body, our abilities to detect differences in bioavailability and possible therapeutic nonequivalence have appreciably improved.

### Product Selection Based on Patient Response

Improved specifications and standards can better assure the equivalence of *drug substances*. Manufacturers, compendia and regulatory agencies can all play a part. However, it is the *drug product*, not the *drug substance*, that the physician, pharmacist, nurse and patient-customer utilize. How can these indi-

viduals make or influence specific product selections to minimize variations in therapeutic equivalence of multisource drugs? Patients' responses to a drug product provide a basis of experience to aid the physician in his selection of a particular product. The nurse and pharmacist can also help detect patient responses, but ultimate responsibility must remain with the physician.

### Reputation of Manufacturer as Basis for Product Selection

The physician, to assure that his patients receive quality health care, must rely upon the capabilities of the reputable pharmaceutical manufacturer who is equipped to develop, prepare and control a quality product of uniform, reliable therapeutic performance. Substitution with purportedly equivalent generic products that are only superficially evaluated by an imitator manufacturer can place the health of the patient secondary to factors of price or convenience for the provider.

## Opinion & Dialogue

What is your opinion, doctor?  
We would welcome your comments.



The Pharmaceutical Manufacturers Association  
1155 Fifteenth Street, N.W., Washington, D.C. 20005

Although equivalence of different preparations of a *drug substance* may be defined by certain physical, chemical or biological characteristics, identity is not always assured even though these characteristics may be described in compendia such as the USP, NF or defined by other specific source standards. Moreover, even with equivalent *drug substances*, similar *pharmaceutical products* can be produced by different manufacturers such that these products are biologically or therapeutically inequivalent.

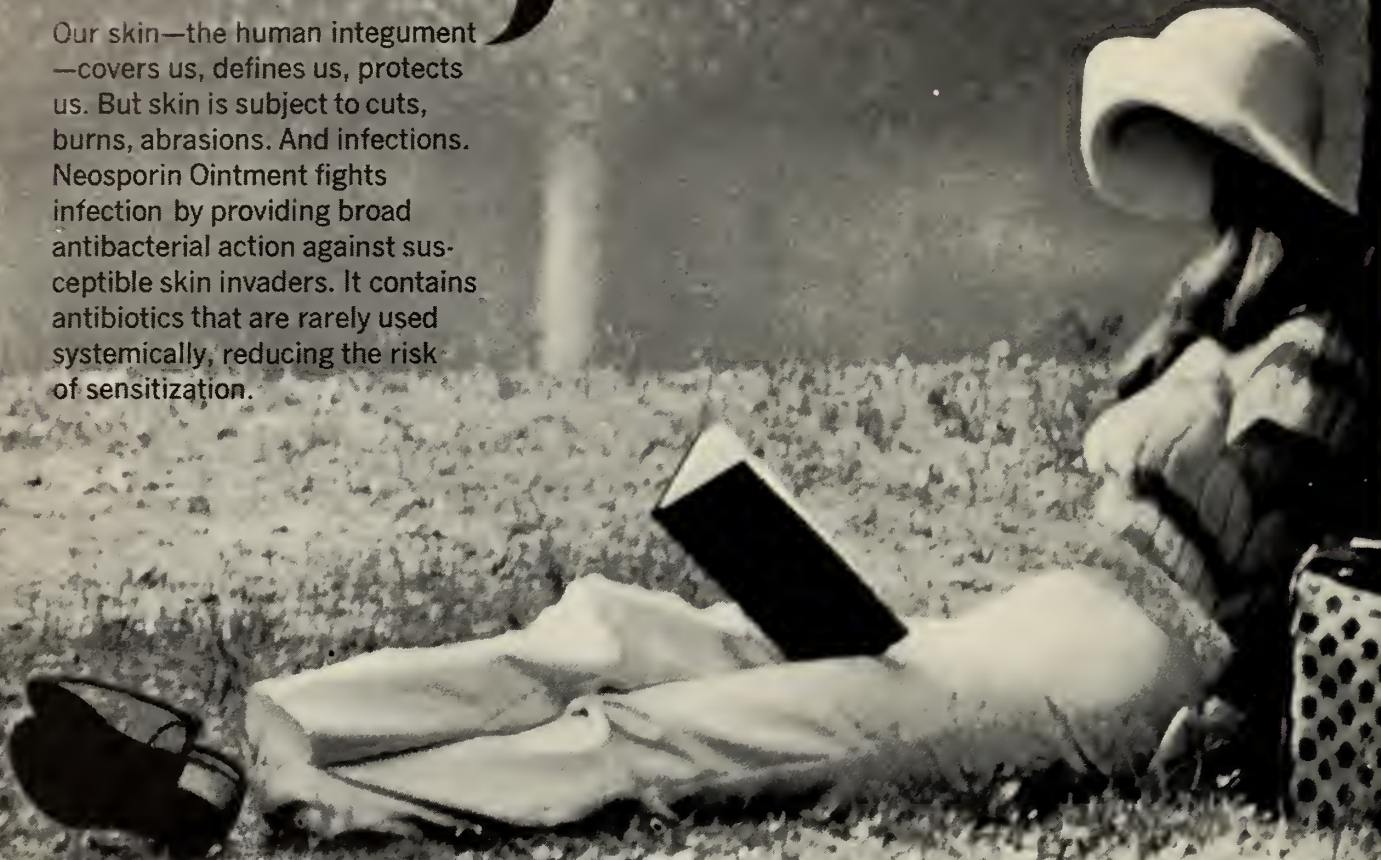
### A Growing Awareness of Potential for Nonequivalence

As experience increases with *drug substances* derived from different sources and under different conditions, it should be possible to establish specifications in sufficient detail to minimize the potential for their nonequivalence. However, there is general agreement that product therapeutic equivalence would still not be assured even if one could



# Integument!

Our skin—the human integument—covers us, defines us, protects us. But skin is subject to cuts, burns, abrasions. And infections. Neosporin Ointment fights infection by providing broad antibacterial action against susceptible skin invaders. It contains antibiotics that are rarely used systemically, reducing the risk of sensitization.



**INDICATIONS:** *Therapeutically*, used as an adjunct to appropriate systemic therapy for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa • primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection.

*Prophylactically*, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

**CONTRAINDICATIONS:** Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

**PRECAUTION:** As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Complete literature available on request from Professional Services Dept. PML.

## NEOSPORIN<sup>®</sup> Ointment

(POLYMYXIN B-BACITRACIN-NEOMYCIN)

Each gram contains: Aerosporin<sup>®</sup> brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q.s. In tubes of 1 oz. and ½ oz. and ¼ oz. (approx.) foil packets.



Wellcome

Burroughs Wellcome Co.  
Research Triangle Park  
North Carolina 27709



rather than through Annual meeting efforts. As improved patient care through an approach to the whole man is the ultimate goal of this program within S.C.M.A., every effort will be made to encourage dialogue between physicians and pastoral and chaplain members of the clergy in hospitals, in local society meetings and at any other point of contact. The Committee on Cooperative Activities of the Council has been requested to ensure that each District have at least one man on the committee.

Five committee members attended an AMA Regional Workshop on Medicine and Religion on February 10 in Atlanta. Reorganization of the AMA Department was the main agenda item. It is obvious that more of a grass roots emphasis has arisen from recent cutbacks in this program by the AMA Board of Trustees.

Robert F. Goldie, M.D.  
Chairman

#### **The Committee on Public Relations**

This Committee met July 19, 1972 and discussed the work of the last year and plans for the current year. The chief activities of the Committee have been in the continuation

of the program of providing weekly medical articles for 13 South Carolina newspapers and monthly medical spots for the 14 major television stations of the state, and in promoting the annual winter meeting for the County Society Officers.

Dr. Tucker Weston attended the meeting and led discussion on the question of employing a professional public relations man or firm. Proposals from two different companies were heard. After much discussion the committee recommended to Council that Mr. Leroy Harrelson of Columbia be engaged as advisor on public relations at a cost of 35 dollars per hour at a maximum of five hours per week.

This information was passed on to Council and has been under its consideration. However, this Committee has had no official communication from Council in answer to its inquiries and is totally unaware of what plans are in the making in respect to the Public Relations person or firm. We understand that Mr. Harrelson has been employed. In view of its ignorance of the wishes of Council, the Committee on Public Relations is unable to make any recommendations other than the continuation of the efforts



J. Howard Stokes, M. D.  
Treasurer



Strother Pope, M. D.  
Secretary



Thomas Parker, M. D.  
Delegate to A. M. A.



John Hawk, M. D.  
Delegate to A. M. A.

currently pursued. It needs some definition of its responsibilities.

Joseph I. Waring, M.D.  
Chairman

#### **Mediation Committee**

There were two cases brought before the mediation committee during the year. One involved a parent who claimed he could not get a doctor to see his daughter. The patient was contacted for further details and he did not reply. The family physician was contacted and he stated that he had offered to arrange for a consultation with the proper specialist but that the patient just stormed out of his office.

The second case was one of ethics and following a telephone conference by this committee the physician was contacted and informed of the patients complaint and the committees feeling on this particular issue. It was felt nothing further needed to be done in either of these cases.

There was nothing else to come before the committee.

W. J. Bannen, Jr., M.D.  
Chairman

#### **Peer Review**

The Peer Review Committee has continued its attempt to review those matters referred to it. The vast majority of the questions have related to the estimation of "usual and customary and reasonable" fees for various services, predominantly surgical. Throughout most of the year, advice was received from consultants appointed by several of the organized specialty societies. More recently the S. C. Chapter of the American Academy of Family Practice, the S. C. Society of Internal Medicine, the S. C. Surgical Society, and the S. C. Chapter of the American Academy of Pediatrics have appointed peer review boards to receive pertinent referrals and have been most co-operative and helpful.

The lack of precise and comprehensive criteria for peer review continues to be a severe handicap to the function of any peer review body. The publication and general adoption by our profession of such criteria is essential to successful peer review and is mandatory for such activity as is required of any Professional Standards Review Organization (PSRO) as described in HR-1.

It is also urgent that there be established



a uniform concept of reasonable, customary, usual, prevailing, and appropriate fees. Several approaches to this matter, essential to the health insurance industry, are being used by insurance carriers. These include the "individual physician profiles", relative value schedules, and regional computations.

This committee respectfully requests that the SCMA institute appropriate steps toward the publication of comprehensive review criteria.

This committee further respectfully requests that conferences be arranged between responsible representatives of the health insurance industry and representatives of the Association to thoroughly review the various approaches of defining "usual and customary" fees. From such conferences, it will be expected that recommendations can be made for consideration and adoption by the Association.

This committee further recommends that the S. C. Foundation for Medical Care apply, at the appropriate time, to the Department of Health, Education, and Welfare for designation as the PSRO for South Carolina and that such PSRO activity, if approved, be structured and operate according to

advice imminently anticipated from the American Medical Association. It is currently understood that the PSRO will be concerned only with standards of medical care and will not review matters concerning fees.

This committee further recommends that the SCMA continue its peer review activities for the consideration of matters outside the province of the PSRO, and that Council be authorized to establish regional peer review committees as it sees fit.

Michael F. Patton, M.D.  
Chairman

#### Committee on Cooperative Activities

The Committee of Cooperative Activities met by telephone conference in September 1972 and discussed its responsibilities for appointment of various miscellaneous subcommittees which help to carry on the business of the Association. After consultation with the various subcommittee chairmen, appointments of replacements of retiring subcommittee members were made.

Subcommittees appointed are as follows:

J. A. White, M.D.  
Chairman

### COMMITTEE ON COOPERATIVE ACTIVITIES — 1973 SUBCOMMITTEES

#### TERM EXPIRES

#### ADVISORY COMMITTEE TO THE WOMAN'S AUXILIARY

J. Ray Ivester, Chairman	Charleston	1973
William P. Turner	Greenwood	1974
Thomas Parker	Greenville	1974
M. L. Meadors, ExOfficio	Florence	
Edward F. Parker	Charleston	1975

#### COMMITTEE ON ALCOHOLISM AND DRUG ADDICTION

Hunter Rentz, Chairman	Columbia	1973
Harold W. Moody	Spartanburg	1974
Martin Keeler	Charleston	1974
William F. Ward, Jr.	West Columbia	1975
Danny R. Blackwell	Kershaw	1975
William S. Hall, Ex Officio	Columbia	1975

#### COMMITTEE ON EYE BANK

Welbourne A. White, Chairman	Columbia	1974
David S. Asbill	Columbia	1974

James H. Gressette	Orangeburg	1974
Clay W. Evatt, Jr.	Charleston	1974
George R. Cousar, Jr.	Greenville	1973
VACANCY		1975

#### COMMITTEE ON RELIGION AND MEDICINE

Robert F. Goldie, Chairman	Columbia	1975 (R)
Vernon Jeffords	Spartanburg	1974
Jimmie H. Carpenter	Seneca	1974
Norman O. Eaddy	Sumter	1973
B. L. Barnett, Jr.	Charleston	
William F. Ward, Jr.	West Columbia	
James N. Craigie	Loris	

#### COMMITTEE ON LIAISON WITH ALLIED PROFESSIONS

Sayge H. Anthony, Chairman	Greenville	1973
Walter R. Wiley	Chesterfield	1974
P. Eugene Payne	Columbia	1973

#### COMMITTEE ON MENTAL RETARDATION

Robert Brownlee, Chairman	Greenville	1973
Guy Castles	Greenville	1974
Frank Wrenn	Greenville	1974
Bruce Ford	Spartanburg	1974
Louis P. Jervey	Charleston	1974
Roy Suber	Clinton	1973



Harrison Peeples, M. D.  
Alternate Delegate to A. M. A.



C. Tucker Weston, M. D.  
Alternate Delegate to A. M. A.

## ADVISORY COMMITTEE TO CRIPPLED CHILDREN'S SOCIETY

Joseph I. Waring, Chairman	Charleston	1974
Milton C. Westphal	Charleston	1974
Julian P. Price	Florence	1974
George Dean Johnson	Spartanburg	1973
Joel W. Wyman	Anderson	1973
C. Guy Castles, Jr.	Columbia	1975 (R)
R. C. Brownlee	Greenville	1975 (R)
William Weston, Jr., Honorary	Columbia	
Orlando B. Mayer, Honorary	Columbia	
Edward F. Parker, ExOfficio	Charleston	

## COMMITTEE ON MEDICAL ASPECTS OF SPORTS

E. M. Lunceford, Chairman	Columbia	1973
James L. Hughes	Chester	1974
W. R. Henderson	Spartanburg	1974
Charles Wannamaker	N. Charleston	1974
William B. Evins	Greenville	1974
James G. Johnson	Orangeburg	1975 (R)
Judson E. Hair	Clemson	1973
VACANCY	_____	1975

## MEDICAL ADVISORY COMMITTEE TO S. C. VOCATIONAL REHABILITATION DEPARTMENT

J. Kilgo Webb, Chairman	Greenville	G.S.	1973
Richard M. Christian	Greenwood	I.M.	1973
Albert F. Aiken	Charleston	N.	1973
J. Howard Stokes	Florence	Ophth.	1973
Harry J. Metropol	Columbia	G.S.	1974
A. Frank Weir, Jr.	Spartanburg	O.T.O.	1974
Robert N. Milling	Columbia	Psy.	1974
Roy E. Hudgens, Jr.	Florence	Anes.	1975
Malcolm L. Marion	Chester	G.P.	1975
Charles P. Summerall, III	Charleston	I.M.	1975
Roland M. Knight	Greenville	Orth.	1975
Joseph H. Miller, III	Columbia	Uro.	1975
E. Kenneth Aycock	Columbia	State Health O.	
Ben N. Miller	Columbia		

### Permanent Home Committee

The Council, S. C. Medical Association, met at Headquarters of Blue Cross-Blue Shield on June 28, 1972, and appointed the following members to the Permanent Home Committee:

- District 1 — Dr. J. Manly Stallworth,  
Charleston, S. C.
- District 2 — Dr. C. Tucker Weston,  
Columbia, S. C.
- District 3 —

- District 4 — Dr. James C. Brice, Jr.,  
Easley, S. C.
- District 5 — Dr. Rion M. Rutledge,  
Rock Hill, S. C.
- District 6 — Dr. Roy E. Hudgens,  
Florence, S. C.
- District 7 — Dr. T. Marion Davis,  
Greenville, S. C.
- District 8 — Dr. James H. Gressette,  
Orangeburg, S. C.
- District 9 — Dr. James L. Duncan,  
Spartanburg



A meeting of the Permanent Home Committee was held on July 26, 1972, at which time there was not a quorum present to conduct business.

The Permanent Home Committee of the S. C. Medical Association held a meeting on August 10, 1972. Election of officers was held and C. Tucker Weston, M. D. was named Chairman; Manly Stallworth, M. D., Vice Chairman, and Richard Pugh, Secretary. Those present at this meeting included Drs. Brice, Gressette, Stallworth, Walker, and Weston, and Messrs. Jack Meadors and Richard Pugh of the Association's Staff. The group heard a presentation of Mr. Alan Marshall of the firm of Columbia Architects, who outlined some of the projects his firm had undertaken and gave a general outline of what to expect in costs, time, etc. in building a new headquarters building, including space for the South Carolina Medical Foundation. It was pointed out to the group that this Committee reported directly to Council with its recommendations and that Council would make the final decision as to going ahead with the building recommended. A general discussion followed.

The Permanent Home Committee met again on September 19, 1972 and those present were: Drs. Rutledge, Duncan, Gressette, Walker, Stallworth, and Weston, and also Mr. Meadors and Mr. Pugh. The Committee selected the firm of Lyles, Bissett, Carlisle, and Wolff for the planning and development of the building. The realty firm of Keenan and Kittrell was also selected as the real estate advisors and consultants to the Architectural Firm and the Committee.

Following this, Mr. Meadors presented a slide presentation of Medical Association Headquarters throughout the country, to give the Committee some ideas of the type buildings in use by other Associations.

The next meeting of the Permanent Home Committee was held on October 17, 1972, meeting at 5:00 P.M. in conjunction with the Permanent Home Committee of the Columbia Medical Society. In attendance at the meeting with the State and Local Permanent Home Committees, were the follow-

ing: J. M. Stallworth, J. H. Gressette, J. L. Duncan, J. C. Brice, Jr., and C. Tucker Weston from the State Association Committee. Present from the Columbia Medical Society were: Ethel M. Madden and Ben N. Miller. Also present were: Mrs. Margie David, Executive Secretary of the Columbia Medical Society and Mr. Richard Pugh and Mr. Jack Meadors of the Association's Staff. Mr. Robert Selman, Mr. Robert Lyles, and Mr. John Boudreaux were present from the Architectural Firm and, later, Dr. William M. Bryan arrived.

Seven recommendations were made to Council:

1. Employment of the Architectural Firm of Lyles, Bissett, Carlisle, and Wolff to serve as the Architectural Engineers for the building to be constructed.
2. Employment of the Realty Firm of Keenan and Kittrell as the real estate consultants and agents involved in the construction and rental of this property. This recommendation includes maintaining the agent-client relationship with this Firm for them to secure the tenants and handle the rentals for the building after it is constructed.
3. Accept the loan from the Columbia Medical Society of \$45,000.00 to \$50,000.00 at a  $\frac{1}{2}\%$  lower rate than the remaining loan which will be obtained on the building.
4. The Columbia Medical Society would become a tenant in the building with the interest accumulated from the loan applying to the rent, with long term plans to be made for re-payment of this loan at a future date.
5. The Committee recommends that the architects be instructed to proceed with plans to build a building with a minimum of 3 floors and 25,000 square feet.
6. The Committee recommends that the Realty Firm be instructed to begin making contracts for leasing of the building, with possible date of completion of the building in July, 1974.
7. The Committee desires that the Council inform it of the necessary construc-

tion to be involved in respect to any heavy equipment or specialized equipment, such as computer machines which might need heavier foundation, and more refined air conditioning and heating units, so that these could be incorporated into the plans for construction of the building.

Council approved these recommendations, and Architects and Realtor were notified on October 19, 1972.

Since that time, the Architects have been preparing sketches and plot plans, and these are now being finalized. The next meeting of the Committee will be held on April 3, 1973 at 5:30 P.M. at the Richland Memorial Hospital, after which the Committee's report will be made to Council on April 11, 1973.

C. Tucker Weston, M. D.  
Chairman

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#### AMA NEWSLETTER

"THREE BASIC PRINCIPLES FOR A NATIONAL economic stabilization policy were suggested last week by the AMA letter to the Senate Committee on Banking, Housing and Urban Affairs. The committee is considering legislation to extend the Economic Stabilization Act for one year. The act expires April 30. The AMA suggested that 'controls should be temporary, controls should be minimal, and controls should be non-discriminatory.' The AMA noted that it had objected to the "highly discriminatory treatment accorded health care providers" under Phases 1 and 2, and that discrimination was heightened under Phase 3 when mandatory controls were suspended for most sectors of the economy but were continued for health care providers.

'OUR OPPOSITION TO THIS DISCRIMINATION does not stem from self-interest,' the AMA said, 'nor is it based solely upon invidious comparison with those segments of the economy no longer subject to mandatory control. . . . It is submitted that the capricious imposition of controls on select groups only seems to frustrate the basic objectives of the stabilization

program itself.' Effective regulation, the AMA wrote, 'must recognize the interrelationships existing within the economy so that controls will achieve restraints and stability throughout the economy.'

"PHYSICIANS HAVE COMPLIED WITH EFFORTS to curb inflation during Phases 1 and 2, the AMA said. Between August, 1971, and December, 1972, the Consumer Price Index all-items category rose at a rate of 4.2% and the all-services category rose at the rate of 4.6%, but physicians' fees rose only 3.2%. For the calendar year 1972, physicians' fees increased only 2.1%. 'Thus, there is no indication that physicians' fees have been a major inflationary factor during the course of the stabilization program, and it is difficult to discern any rationale for imposing mandatory controls in this sector,' the letter stated. 'To invoke controls for one activity without the reasonable expectation of achieving a result having universal application, is to employ the statute in a punitive manner,' the AMA said. 'Punitive treatment of health care professionals is neither sanctioned by law nor warranted by the record.'

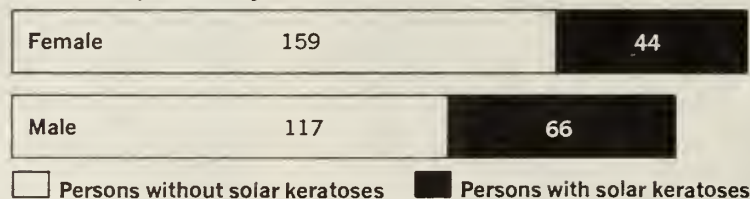
# What it means to live and work in Tipton County, Tennessee

**Persons who are white and  
over 40 have one chance in four  
of having solar keratoses...  
which may be premalignant**

An epidemiologic study\* conducted in Tipton County, Tennessee, revealed that 28.5% of white persons over 40 had solar keratoses; most had multiple lesions. Cluster sampling projected an estimated prevalence of 32.5% for white males and 19.5% for white females.

Though this is an unusually high percentage of affected persons, these lesions can occur in any white population, wherever people work or play out of doors.

**Prevalence of solar keratoses in white persons  
over 40 in Tipton County, Tennessee**



\*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.





## Solar, actinic, senile keratoses

Called by many names, the typical lesion is flat or slightly elevated, brownish or reddish in color, papular, dry, adherent, rough, sharply defined; usually multiple lesions, chiefly on exposed portions of the skin.

## Sequence/selectivity of response

Erythema in areas of lesions may begin after several days of therapy; height of reaction (only in affected areas)\* usually occurs within two weeks, declining after discontinuation of therapy. Since this response is so predictable, lesions that do not respond should be biopsied to rule out the presence of a frank neoplasm.

## Cosmetic results

Cosmetic results are highly favorable. Incidence of scarring is low—important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

## 5% cream—a Roche exclusive

Only Roche formulates the 5% cream... high in patient acceptability... high in clinical efficacy, especially for lesions of hands and forearms... economical.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)amino-methane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

an alternative to  
conventional therapy  
**Efudex<sup>®</sup>**  
(fluorouracil)  
cream/solution



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110



## EXHIBITORS

### ACTA-FAX BUSINESS MACHINES

This year Acta-Fax Business Machines, Inc. will feature their new statement copying machine, the Savin "203", with the new automatic feeder that will feed various thicknesses of paper by simply dialing the type paper you are sending through the machine.

Also, Savin's "errorless typewriter", the Savin Wordmaster 900 will be introduced. This machine will greatly accelerate typing efficiency as corrections are made on magnetic tape. The typewriter will print out with no errors at 186 words per minute.

### ALCOHOL SAFETY ACTION PROJECT

1611 Devonshire Drive, Columbia, S. C.

### AMERICAN ACADEMY OF FAMILY PRACTICE (S. C. Chapter)

P. O. Box 442, Laurens, S. C.

### AMES COMPANY

Elkhart, Indiana

### ASTRA PHARMACEUTICAL PRODUCTS, INC.

Neponset Street, Worcester, Massachusetts

### AYERST LABORATORIES

Ayerst Laboratories is pleased to offer you or a member of your family — with your permission — a complimentary Cholesterol/Triglyceride determination. For an accurate determination, blood should be drawn after a 12-14 hour fast. We would like to remind you not to partake of food or drink after dinner the evening before the morning that you plan to have your personal Cholesterol/Triglyceride determination blood sample taken.

### BRISTOL LABORATORIES

You are cordially invited to visit our exhibit reflecting Bristol's leadership and enduring commitment to the manufacture of life-saving antibiotics.

For your consideration, the following Bristol products are featured: Versapen (R) (hetacillin), Kantrex, (R) (kanamycin sulfate), Tetrex (R) (tetracycline phosphate complex), Prostaphlin (R) (sodium oxacillin), Salutensin (R) (hydroflumenthiazide and reserpine), Bristamycin (R) (erythromycin stearate), Naldecon (R) (antihistamine decongestant), and Polycillin (R) (ampicillin trihydrate).

Our representatives welcome the opportunity to answer your inquiries.

### R. L. BRYAN COMPANY

Post Office Drawer 368, Columbia, S. C.

### COLUMBIA BRACE SHOP

Sale of Orthopedic braces, supports, collars, elastic hose, wheel chairs, crutches and canes, and corrective shoes will be featured.

### DOW CHEMICAL COMPANY

**Gamulin Rh** — Rh<sub>0</sub> (D) immune globulin (human) for the suppression of the immune response of nonsensitized Rh<sub>0</sub> (D) negative mothers follownig Rh incompatible pregnancies.

**Rifadin** — Antibiotic indicated for the treatment of tuberculosis.

**Tussend** — for the patient whose U.R.I. brings spasms of coughing.

**Novahistine Singlet** — for the patient whose discomfort is caused by nasal, otic and sinus congestion.

### EXTENDICARE, INC.

Post Office Box 1438, Louisville, Kentucky

### GEIGY PHARMACEUTICALS

Geigy Pharmaceuticals cordially invites members and guests of the Association to visit its exhibit.

The exhibit features current concepts in the control of diabetes; inflammation; depression; and other disorders which may be discussed with representatives in attendance.

### **JIM HARRISON STUDIO & GALLERY**

Jim Harrison of Denmark, South Carolina, has a deep love for the lowcountry where he lives and for the people of his area. His work is a personal statement on his lowcountry from its rickety barns and shacks to its coastal vistas of marshes, dunes, and waving sea oats. His paintings have been in shows from New York to Miami.

### **HOECHST PHARMACEUTICALS, INC.**

The representatives at the Hoechst booth will be happy to discuss their products with particular application to the physician's individual practice. Featured is Lasix® (furosemide), Surfak and Doxidan.

### **IMPERIAL CHEMICAL INDUSTRIES, INC.**

Wilmington, Delaware

### **LAKE SIDE LABORATORIES, INC.**

Lakeside Laboratories, Inc. exhibit will include Cantil, Imferon, Ireon, Ireon-FA, Mercuhydrin, Metahydrin, Metatensin, Norpramin, Triclos and the Learning Systems on Depression and Iron.

### **LANIER BUSINESS PRODUCTS**

Post Office Box 1555, Atlanta, Georgia

### **LEDERLE LABORATORIES**

Members and guests of the Association will find trained Lederle representatives at the exhibit to discuss our recently released dosage forms of Minocin IV and Minocin Syrup as well as established products such as the Aristocort® line, Orimune®, the polio vaccine and other products of our research-oriented company.

### **MEAD JOHNSON LABORATORIES**

The Mead Johnson Laboratories' exhibit has been arranged to give you the optimum in quick service and product information. To make your visit productive, specially trained representatives will be on duty to tell you about K-Lyte, Vasodilan, Feminins, Flexical, and Enfamil.

### **NATIONWIDE PENSION PLANNING**

666 5th Avenue, New York, New York

### **ORGANON, INC.**

West Orange, New Jersey

### **ORIENT ADVENTURE (INTRAV)**

634 N. Grand Boulevard, St. Louis, Missouri

### **PALMEDICO, INC.**

Post Office Drawer 3397, Columbia, S. C.

### **PARKE-DAVIS**

Joseph Campan at the River, Detroit, Michigan

### **PFIZER LABORATORIES**

418 Townes Road, Columbia, S. C.

### **POWERS & ANDERSON OF SOUTH CAROLINA, INC.**

Post Office Box 353, Columbia, S. C.

### **WM. P. POYTHRESS & COMPANY, INC.**

Richmond, Virginia

### **REED & CARNRICK PHARMACEUTICALS**

Kenilworth, New Jersey

### **RIKER LABORATORIES, INC.**

You are cordially invited to visit the Riker Laboratories, Inc. — 3M exhibit at Booth 10. Our representatives are looking forward to seeing you and discussing Riker Products and related patient-care booklets with you.

### **SANDOZ PHARMACEUTICALS**

Sandoz Pharmaceuticals cordially invites you to visit our display at booth #2, where we are featuring Mellaril, Hydergine and Fiogesic.

Any of our representatives in attendance will gladly answer questions about these and other Sandoz products.

### **SCHERING CORPORATION**

SCHERING LABORATORIES extends a cordial invitation to all members and guests



to visit our exhibit which features Garamycin(R) Injectable, Etrafon(R), and Valisone(R). Our Professional Representatives on duty are looking forward to meeting you and answering any questions you may have on any Schering product.

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#### **SEALY OF THE CAROLINAS, INC.**

Sealy of the Carolinas, Inc. will display the nationally-known Sealy Imperial Posturepedic innerspring and foam rubber mattresses, with their matching patented "Posture Grid" foundations. Sealy Posturepedic is the largest-selling brand of its type of bedding. Sealy, Inc., with its twenty-eight American plants, is today the largest producer of mattresses and box springs in the country. Sealy Posturepedic has been offered at special medical discount pricing to members of the medical profession, for their own use and for that of their families, for more than twenty-five years.

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#### **SEARLE LABORATORIES**

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be information on Ovulen(R), Demulen(R), Enovid(R), Aldactazide(R), Flagyl(R), Lomotil(R), Pro-Banthine(R), Metacencil(R) and other drugs of interest.

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#### **SCRMP'S CONTRIBUTION TO IMPROVED HEALTH CARE TO BE FEATURED AT SCMA MEETING IN MYRTLE BEACH**

The contribution of the South Carolina Regional Medical Program to the improvement of patient care and health services throughout the entire state will be the subject of a SCRMP sponsored exhibit at the Annual Meeting of the South Carolina Medical Association, May 14-16, in Myrtle Beach.

SCRMP's projects are designed to direct attention to early diagnosis and treatment, to improvement of facilities, introduction of new techniques and the application of research to health care delivery to improve quality and efficiency. Emphasis is placed

on cost control, accessibility, improved communications and quality standards. Preventive medicine, in its broadest sense, improved nutrition, health education, early recognition of illness, ambulatory care and improved emergency medical services are of fundamental importance in its several programs. Though initially concerned chiefly with heart disease, cancer, stroke, kidney and other related diseases, these areas are only part of the total program of the SCRMP which is concerned with a variety of health needs and problems as identified by the Regional Advisory Group and its committees.

The SCRMP display will contain a variety of informational materials including a series of enlarged photographs that show how RMP stimulates and develops projects to improve and expand services rendered by providers of health care.

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#### **SOUTH CAROLINA MEDICAL ASSOCIATION SPONSORED INSURANCE PLANS STATE BOARD OF HEALTH**

J. Marion Sims Buliding, Columbia, S. C.

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#### **STUART PHARMACEUTICALS**

The Stuart Pharmaceuticals booth consists of graphic panels, product samples and literature describing some or all of the following products:

Mylanta  
Chewable Sorbitrate  
Sorbitrate Sublingual and Oral  
Kinesed  
Stuartsnatal 1+1  
and others.

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#### **UNIFORMS BY JOHN**

Whether you prefer the latest in fashion or traditional styling in uniforms and accessories, visit our exhibit in booth #18.

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#### **WARNER-CHILCOTT** Morris Plains, New Jersey

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#### **WINCHESTER SURGICAL SUPPLY** 200 S. Torrence Street, Charlotte, N. C.

# ORIENT ADVENTURE

We depart from Columbia, S. C. on July 21, 1973

## Discover the ancient Orient in modern Japan and Hong Kong

Discover the special wonders of the Orient . . . sampans and skyscrapers, temple bells and Bullet Trains, Jasmine and glittering nightlife.

Tokyo—animated, thriving. Hong Kong—the shopping market of the world. Exclusive excursions are available to Kyoto—Japan's classical center for a thousand years . . . and to Bangkok—Thailand's exotic capital of temples of fairy tale magnificence.

Orient Adventure—special places—distinctive features. VIP service, direct private 707 jet flights, deluxe hotels, gourmet meals and no regimentation.

The Orient is yours—at a very special price—(Price). Space is strictly limited. Mail your reservation today.



Send to: South Carolina Medical Association  
113 N. Coit Street  
Florence, S. C. 29502

Enclosed is my check for \$ \_\_\_\_\_  
(\$100 per person as deposit)

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE \_\_\_\_\_

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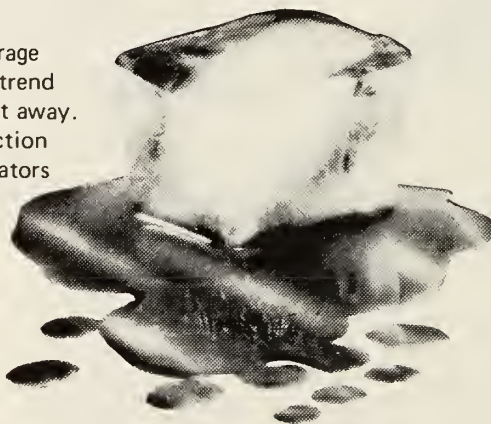
## G. P. or Internist

### Wanted

Wanted: GP or Internist to associate with GP in beautiful gulf coast beach area. Well-equipped office — two hospitals close by. Contact Dr. Freeman Epes, 5132 Ocean Blvd., Siesta Village Plaza, Sarasota, Fla. 33581

# Don't let it melt away.

Is your earning power insured? Is your coverage *adequate* in the face of today's inflationary trend and rising costs? Don't let your security melt away. If you haven't evaluated your income protection insurance recently, do it now. Call the Educators Mutual Life man and let him show you how to get the maximum protection for your premium dollar through your local medical society group.



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Phone (803) 662-6525

*Educators Mutual Life* **INSURANCE COMPANY**  
Lancaster, Penna.





Maybe the patient's self-diagnosis is right. He could have hay fever. But that bright red nasal mucosa, along with the thick discharge and excoriation around the nares, strongly suggests that the main problem is a cold. Hay fever or another form of allergic rhinitis may or may not be an underlying factor.

If a complete history and examination rule out allergic rhinitis, the long-term outlook will be a lot more favorable than his own "diagnosis" would have indicated.

But right now, whether he's got allergic rhinitis or a cold, he's suffering from the same irritat-

ing symptoms of drip, congestion and stuffiness. Try DIMETAPP EXTENTABS®. They're formulated to relieve these symptoms without much chance of causing drowsiness or overstimulation. Your patients will appreciate the 24-hour relief they can get from just one tablet every 12 hours.

# Cold or



# Allergy?

**Whether it's a cold or an allergy, Dimetapp Extentabs® effectively relieve stuffiness, drip and congestion.**

**INDICATIONS:** Dimetapp Extentabs are indicated for symptomatic relief of allergic manifestations of upper respiratory illnesses, such as the common cold, seasonal allergies, sinusitis, rhinitis, conjunctivitis and otitis. In these cases it quickly reduces inflammatory edema, nasal congestion and excessive upper respiratory secretions, thereby affording relief from nasal stuffiness and postnasal drip.

**CONTRAINDICATIONS:** Hypersensitivity to antihistamines of the same chemical class. Dimetapp Extentabs are contraindicated during pregnancy and in children under 12 years of age. Because of its drying and thickening effect on the lower respiratory secretions, Dimetapp is not recommended in the treatment of bronchial asthma. Also, Dimetapp Extentabs are contraindicated in concurrent MAO inhibitor therapy.

**WARNINGS:** *Use in children:* In infants

and children, particularly, antihistamines in overdosage may produce convulsions and death.

**PRECAUTIONS:** Administer with care to patients with cardiac or peripheral vascular diseases or hypertension. Until the patient's response has been determined, he should be cautioned against engaging in operations requiring alertness such as driving an automobile, operating machinery, etc. Patients receiving antihistamines should be warned against possible additive effects with CNS depressants

such as alcohol, hypnotics, sedatives, tranquilizers, etc.

**ADVERSE REACTIONS:** Adverse reactions to Dimetapp Extentabs may include hypersensitivity reactions such as rash, urticaria, leukopenia, agranulocytosis, and thrombocytopenia; drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, hypotension/hypertension, headache, faintness, dizziness, tinnitus, incoordination, visual disturbances, mydriasis, CNS-depressant and (less often) stimulant effect, anorexia, nausea, vomiting, diarrhea, constipation, and epigastric distress.

**HOW SUPPLIED:** Light blue Extentabs in bottles of 100 and 500.

## Dimetapp Extentabs®

Dimetane® (brompheniramine maleate), 12 mg.; phenylephrine HCl, 15 mg.; phenylpropanolamine HCl, 15 mg.

**A-H-ROBINS**

A. H. Robins Company, Richmond, Va. 23220

# when pain goes on... and on... and on—



For the patient with a terminal illness, PAIN past, present, and future can dominate his thoughts until it becomes almost an obsession. The more he is aware of the pain he is now experiencing, the more difficult it is to erase his memory of yesterday's pain, and to allay his fearful anticipation of tomorrow's pain.

Surely the last thing this patient needs is an analgesic containing caffeine to stimulate the senses and heighten pain awareness. A far more logical choice is Phenaphen with Codeine. The sensible formula provides  $\frac{1}{4}$  grain of phenobarbital to take the nervous "edge" off, so the rest of the formula can help control the pain more effectively. Don't you agree, Doctor, that psychic distress is an important factor in most of your terminal and long-term convalescent patients?

the analgesic formula that calms instead of caffeinates

## Phenaphen<sup>®</sup> with Codeine

Phenaphen with Codeine No. 2, 3, or 4 contains: Phenobarbital ( $\frac{1}{4}$  gr.), 162 mg (warning: may be habit forming); Aspirin ( $2\frac{1}{2}$  gr.), 162.0 mg; Phenacetin (3 gr.), 194.0 mg; Codeine phosphate,  $\frac{1}{4}$  gr (No. 2),  $\frac{1}{2}$  gr. (No. 3) or 1 gr. (No. 4) (warning: may be habit forming).

**Indications:** Provides relief in severer grades of pain, on low codeine dosage, with minimal possibility of side effects. Its use frequently makes unnecessary the use of addicting narcotics. **Contraindications:** Hypersensitivity to any of the components. **Precautions:** As with all phenacetin-containing products, excessive or prolonged use should be avoided. **Side effects:** Side effects are uncommon, although nausea, constipation and drowsiness may occur. **Dosage:** Phenaphen No. 2 and No. 3—1 or 2 capsules every 3 to 4 hours as needed; Phenaphen No. 4—1 capsule every 3 to 4 hours as needed. For further details see product literature.

Ⓒ Phenaphen with Codeine is now classified in Schedule III, Controlled Substances Act of 1970. Available on written or oral prescription and may be refilled 5 times within 6 months, unless restricted by state law.

A. H. Robins Company, Richmond, Va. **A·H·ROBINS**



# ALCOHOLISM

## DRUG ADDICTION

**And Other Drug Dependency Conditions**

*Willingway Hospital*



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in severe anxiety  
**Librium® 25 mg**  
(chlordiazepoxide HCl)  
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Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

THE JOURNAL OF THE SOUTH CAROLINA MEDICAL ASSOCIATION  
PUBLISHED MONTHLY  
BY THE ASSOCIATION  
1973

OBSERVATIONS ON ACUPUNCTURE  
ABSENCE OF THE PENIS  
STERILIZATION VIA FIMBRIECTOMY  
METAMORPHOSIS IN MEDICINE

Executive Committee, Board of Health, 1972 Report  
Emergency Medical Services in South Carolina

VOLUME 69

MAY, 1973

NUMBER 5

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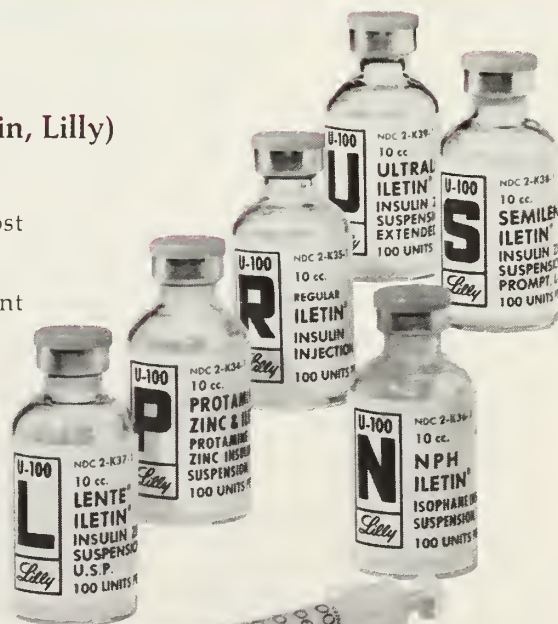
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Some people develop excessive psychic tension and need your counseling



and a few may need counseling  
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Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect.

**Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.



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# Valium® (diazepam)

To help you manage excessive psychic tension

# ALCOHOLISM

## DRUG ADDICTION

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### DOCTORS TEST NEW MEDICARE CODES

Waitus O. Tanner, M.D., Chairman of Council of the South Carolina Medical Association, has announced that a group of 200 physicians in South Carolina is participating in an experiment having national significance.

These physicians will join a similar number of physicians in New York, New Jersey, and California to test a simplified, yet more comprehensive claims reporting system. If the experiment proves successful, the end result may be the implementation of a simplified claims reporting system to be used for all governmental health care programs.

The experiment, prepared by Moshman Associates, Inc., a Washington, D.C. based management consulting firm, is designed to accumulate the necessary information by placing only a minimal amount of work on each physician. Physicians participating in the test will use a special Medicare claim form and will use a simplified two-digit-code to describe the type of patient being treated and the level of treatment given. The level of treatment given to patients will range from "minimal" to "comprehensive" in the opinion of the doctor. In addition, each physician will report the amount he feels the service is actually worth without regard to his established fee for the service. This estimate may be less than, greater than, or equal to his routine charge. The test information will not become part of the physician's established fee profile nor will it be used for any other purpose not related to the test.

The experiment, which will run through June 30, 1973, is being conducted by Blue Cross and Blue Shield, the Medicare Carrier in South Carolina.



# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

### **Contributions of Original Articles**

**Mailing address**—Edw. E. Kimbrough, M.D., Editor, 2709 Laurel Street, Columbia, S. C. 29204.

**Length**—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

**Manuscripts**—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

**Illustrations**—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

**References**—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, *Arch Int Med* 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

**Reprints**—Reprints will be made for the author at established rates.



## Sally's back in sew biz! After an arthritic flare-up.

**Important Note:** This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, giving those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the least possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Substitute alka capsules for tablets if dyspeptic symptoms occur. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasia); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin rashes, significant weight gain or edema. A one-week period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

**Contraindications:** Acute gouty arthritis, rheumatoid arthritis, ankylosing spondylitis.

**Precautions:** Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; leukitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

**Warnings:** Age, weight, dosage, duration of therapy, extent of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use with extreme caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias,

### Butazolidin® alka Geigy

Each capsule contains:  
100 mg. phenylbutazone USP  
100 mg. dried aluminum hydroxide gel USP  
150 mg. magnesium trisilicate USP

If it doesn't work in a week, forget it.

including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

**Precautions:** The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

**Adverse Reactions:** This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis,

epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement. (B) 98-146-070-G

**Serious side effects do occur. Select patients carefully (particularly the elderly) and follow them closely in line with the drug's precautions, warnings, contraindications and adverse reactions.**

For complete details, including dosage, please see full prescribing information.

GEIGY Pharmaceuticals  
Division of CIBA-GEIGY Corporation  
Ardley, New York 10502



# What should a medication for sleep be expected to provide?



**Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:**

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or

recommended

**Contraindications:** Known hypersensitivity to flurazepam HCl.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years

of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with



## Sleep for 7 to 8 hours without need to repeat dosage during the night

No sleep medication has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patients given one 30-mg capsule of Dalmane at bedtime, on average: fell asleep within 17 minutes, had fewer nighttime awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to repeat dosage during the night.

## Sleep with consistency

Dalmane (flurazepam HCl) has been shown to be consistently effective even during consecutive nights of administration. Thus there is little likelihood for the need to increase dosage to maintain therapeutic effect.

Dalmane is in a class by itself. Not a narcotic, barbiturate or methaqualone, Dalmane is the only available benzodiazepine specifically indicated for insomnia.

## Sleep with relative safety

Chronic tolerance studies have confirmed the relative safety of Dalmane (flurazepam HCl); no depression of cardiac or respiratory function was noted in patients administered recommended or higher doses for as long as 90 consecutive nights. In most instances when adverse reactions were reported they were mild, infrequent and seldom required discontinuance of therapy. Morning "hang-over" with Dalmane has been relatively infrequent. Dizziness, drowsiness, lightheadedness and the like have been the side effects noted most frequently, particularly in the elderly and debilitated. (An initial dose of Dalmane 15 mg should be prescribed for these patients.)

When your evaluation of insomnia indicates the need for a sleep medication, consider Dalmane—a single entity agent proved effective and relatively safe for relief of insomnia.

# DALMANE<sup>®</sup>

(flurazepam HCl)

## When restful sleep is indicated

One 30-mg capsule *h.s.*—usual adult dosage  
(15 mg may suffice in some patients).

One 15-mg capsule *h.s.*—initial dosage for elderly or debilitated patients.

ROCHE

ROCHE LABORATORIES  
Division of Hoffmann-La Roche Inc.  
Nutley, New Jersey 07110

ent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe drowsiness, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported.

Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech.

confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients.

*Elderly or debilitated patients:* 15 mg initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.

# & Dialogue

## "Prescription drugs – who should determine the maker?"

### Dispenser of Medicine

Clifton J. Latiolais  
President  
American  
Pharmaceutical  
Association



### Maker of Medicine

C. Joseph Stetler  
President  
Pharmaceutical  
Manufacturers  
Association



"Too many doctors are indifferent to the economic consequences of their decisions." So stated a recent issue of *Medical News Report* (December 4, 1972), an independent weekly newsletter published by former AMA Chief Executive F. J. L. Blasingame, M.D.

#### Doctor, are you indifferent...?

In discussing an anticipated increase in Blue Shield rates, Dr. Blasingame's newsletter had this to say:

"In general, it can be said, MD's have given the impression they are not particularly concerned with the increase in cost of health care to their patients..."

"True, an MD's training is primarily scientific, but in the real world of practice, all of his scientific decisions have a price tag, or an economic impact. The economics of health care beckon the practitioner's attention. Concern for economics of medicine

When the pharmacist recommends that a drug product other than the one ordered be dispensed, the prescriber invariably permits the change when he feels the best interests of the patient will be served.

#### Shortcomings of Pro-Substitution Argument

The fact remains that it is necessary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, the unilateral decision of the pharmacist, made in the absence of clinical knowledge of the patient, could expose him to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothing in the pro-substitution argument that offsets these risks.

#### The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledge about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degree, puts him at a disadvantage. Most often, a practicing physician will need expert knowledge of no more than 25



should be an obligation of medical practice...

"Medical societies ought to conduct continuing campaigns to point out the substantial savings that could be realized thru deductible insurance and protection for catastrophic illness. At the very least, they should, in the patients' interest, question the tactics of any insurance organization that raises health care costs by forcing policyholders to buy insurance they may not need or want and probably won't ever use.

"Too many doctors are indifferent to the economic consequences of their decisions. Too many, for example, habitually hospitalize patients for the convenience of the MD. It's nonsense to deny such habits exist...

"Doctors, thru their medical societies, have unhesitatingly appealed to their patients for support in the fight against government interference with the private practice of medicine. And the public in the past has responded. It's time the American Medical Association and state and local medical societies paid off the debt by decisive action to hold down the cost of medical care."

### Cost of Drugs

Insurance rates and hospital charges are only two factors in health

care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists are concerned. Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

### Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining

high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

### APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

*(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)*

or 30 drugs that he selects to treat the majority of conditions encountered in his practice. Moreover, the physician's choice of a specific brand is based on his knowledge of the patient's medical history and current condition, and his experiences with the particular manufacturer's product.

Some substitution proponents have argued that the dispensing of a prescription is a simple two-party transaction between the pharmacist and the patient, and that a substituting pharmacist may avoid even a technical breach of contract by simply notifying the patient that he is making the substitution. I would judge that few courts would be sympathetic toward a pharmacist who substituted without physician approval and who undertook a legal defense that seeks to make the patient responsible for the pharmacist's actions.

### Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests

the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

### Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

### Summary

In short, what the American Pharmaceutical Association advo-

cates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

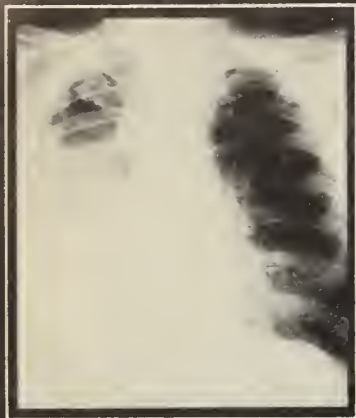
*(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)*

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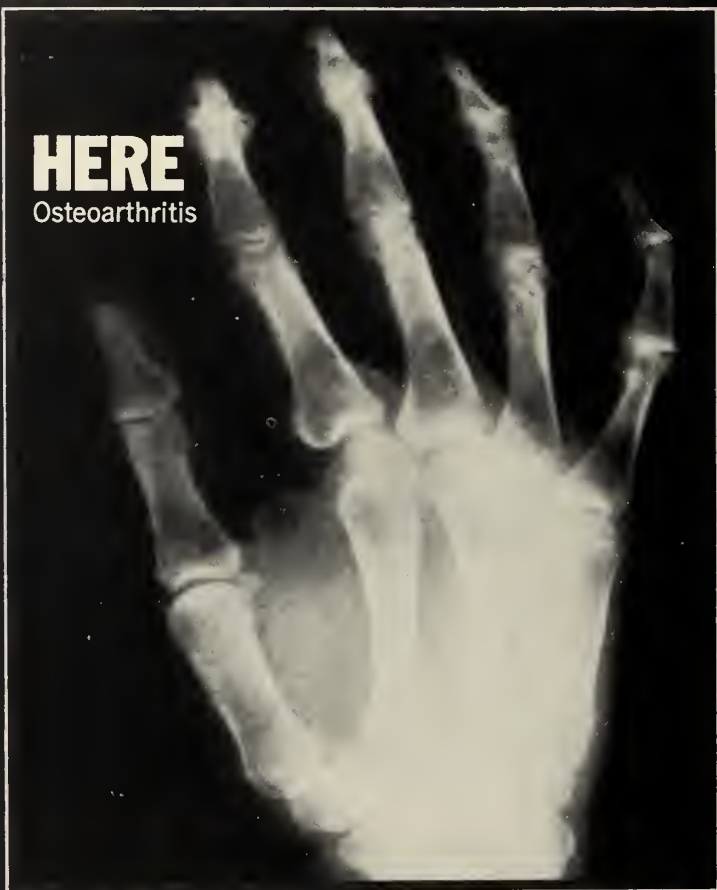


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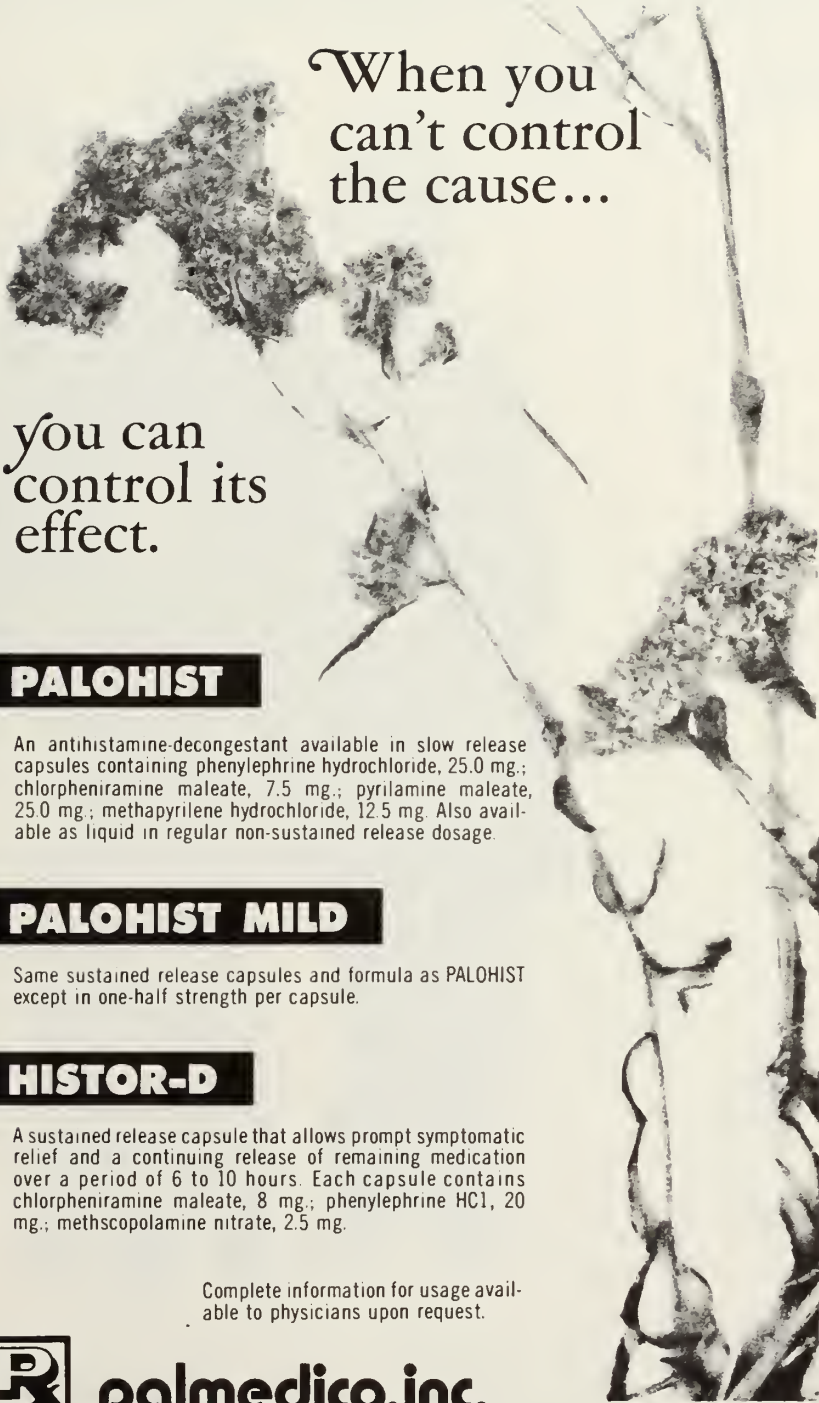
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# Pinworm therapy is often a family affair



**Contraindications:** History of hypersensitivity to thiabendazole.

**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.

**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction,

patients should be carefully monitored.

**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live *Ascaris* in the mouth and nose. Hypersensitivity reactions



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everyone in the family  
can keep to the  
regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy. **Supplied:** Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 cc, in bottles of 120 cc.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

### INDICATION | DOSAGE SCHEDULE

MINTEZOL<sup>®</sup> (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.

*The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).*

MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.

The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days.  This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

\*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

# What's on your patient's face...

may be more important than his chief complaint

Patient P.T.\* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.



Patient P.T.\* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

\*Data on file,  
Hoffmann-La Roche  
Inc., Nutley, N.J



# The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

## Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

## Sequence of therapy— selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; this reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

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Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).



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Nutley, N.J. 07110

## This patient's lesions were resolved with

# Efudex® fluorouracil/Roche®

### 5% cream/solution...a Roche exclusive



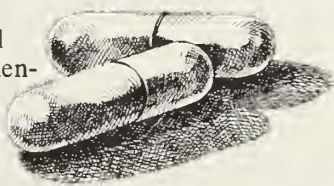
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**You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®**

### **Helps reduce anxiety-related G.I. symptoms**

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



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For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

## **To help relieve anxiety-linked symptoms in gastritis and duodenitis adjunctive Librax®**

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Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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# The Journal

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### SOME EARLY EUROPEAN OBSERVATIONS ON ACUPUNCTURE

JOHN P. DOLAN, Ph. D. \*

The current debate over the relative merits of the ancient Chinese practice of acupuncture might be cited as proof of the cyclic, recurrent nature of medical interest. As in other disciplines, medical science has experienced the ebb and flow of the historical process. While it is true that nothing in the rediscovery of China has excited the popular imagination more than acupuncture anesthesia, it must be borne in mind that this is but the latest chapter in a centuries old fascination on the part of the western world with oriental medicine.

For more than four centuries Europeans have debated the pros and cons of Chinese medical practices. First accounts of acupuncture were carried by Jesuit missionaries who entered China in the 1540's and by the seventeenth century a considerable number of studies on oriental medicine were available to the educated reader. The work of German physician, Andreas Cleyer, *Specimen Medicinae Sinicae*, published in Frankfurt in 1662, reflects this early interest. In 1826 the German orientalist, George Woost, could remind his reader that this earlier interest had declined in his *Quaedam de Acupunctura*

*Orientalium ex Oblivionis Tenebris ab Europaeis Medicis nuper Revocata*. In France, the work of P. Dabry, *La Médecine chez le Chinois*, re-edited in 1863 by M. J. Leon Souberien, stimulated interest in the subject as did the monumental opus of Jean Baptiste Grossier, *L'Histoire General de la Chine*, published in 1785 and later translated into English. Grossier writes, "One of the most extraordinary operations which can be employed in the healing art is that named by the Chinese physicians Tcha-tchin, or pricking with the needle. It consists of making punctures with needles prepared for that purpose in the fine ramifications of the arteries, but without drawing blood, and burning upon them small balls of the down of the mugwort, which have the same effect as a cautery. The efficacy of this mode of treatment has been fully tested by numberless cures which appear almost supernatural. The whole secret of this method is, to know where to make the punctures, how many may be necessary, and the manner of pushing in and drawing out the needles. The patient is ordered at the same time to take some internal medicines."<sup>1</sup>

Yet, the English accounts of this same period reflect an almost opposite viewpoint. Writing in 1797, Sir George Staun-

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UNIVERSITY OF SOUTH CAROLINA  
COLUMBIA, SOUTH CAROLINA

ton, Fellow of the Royal Society of London, considers the Chinese to be lacking in the very fundamentals of medical knowledge—basic anatomy and blood circulation. Their attempts to cure a patient suffering from rheumatism and hernia by acupuncture are described as being near disastrous.<sup>2</sup>

An even more derogatory account of Chinese medicine is found in the *Journal* of John Borrow which appeared in 1805. "The physiology of the human body, or the doctrine which explains the constitution of man is neither understood nor considered as necessary to be known; and their skill in pathology, or in the causes of effects of diseases is extremely limited, very often absurd and generally erroneous." He is especially amazed by the lack of amputees: "I do not recollect to have seen a single individual that had sustained the loss of a limb and but very few in any maimed." "The Chinese," he continues, "is so dreadfully afraid of a sharp-cutting instrument, that he has not even submitted to the operation of blood-letting." In short, he observes, a sixteen year-old with a twelve month apprenticeship with a good Edinburgh surgeon would be far superior to any royal Chinese surgeon.<sup>3</sup>

The English disdain for oriental medicine was due in part to their failure to grasp the religious and philosophical beliefs that underlay it, especially the dualism of Yin and Yang. As Ilza Veith observes, "for the Chinese medicine was but a part of philosophy and religion, both of which propounded oneness with nature, i. e. the universe. The domination of Chinese medicine by theories of cosmogony finds its strongest expression in acupuncture." This view is supported by the earlier observation of J. P. du Halde: "The Chinese physicians suppose (also) that the body, by means of the nerves, muscles, veins, and arteries, is like a kind of lute, or musical instrument, the different parts of which emit various

sounds, or rather have a kind of temperament proper for each, and suited to their figure, situation, and particular uses, and that its different pulses, which resemble the different tones and notes of these instruments, enable one to judge infallibly of their situation and state, in the same manner as a cord, more or less tense, touched in one place or in another, in a stronger or gentler manner, sends forth different sounds, and discovers whether it be too much stretched, or too much relaxed. In a word, they suppose that between all the parts of the human body, there is a certain influence on the one hand, and a sympathy on the other, and these form the basis of their system of physic."<sup>5</sup>

One of the most accurate and sympathetic accounts of acupuncture was written by the German physician, Engebert Kaempfer, who resided in Japan from 1690 to 1692.<sup>6</sup> Kaempfer's account is of special interest for a number of reasons. In the first place he was a highly trained surgeon who combined theoretical knowledge with a wide practice having been fleet surgeon for the Dutch East Indies Navy and court physician to the Count of Lippe. His account was presented before the faculty of the University of Leyden, at that time one of the outstanding medical centers in Europe. Written in Latin, which was still the language of the learned, it reached out to a wide audience when published in 1712. It was later translated into Dutch, German, English, and French. Finally, it was one of the few accounts of acupuncture to contain illustrations which are being used to this day.

In describing the use of the needle among the Japanese, Kaempfer reminds the reader that in comparison with European surgery this method is much more humane. The terrible bloodied knives and burning irons of the West, so horrible in appearance to the patient and attendant are unknown.<sup>7</sup>

The metals used in the operation are

of gold and silver and are highly polished so as to facilitate easy puncturing of the body. They are ductile and unalloyed. Their tempering is such an art that only those certified by the government are allowed to prepare them.

There are two basic types of needles. The first, made either of gold or silver, is similar in shape to the stylus used by schoolboys or to the writing instruments of the Indians except that they are smaller. Four inches in length, they have a very sharp point and are equipped with a twisted handle in order to be easily turned. The needles are carried in a hammer so constructed that they can be conveniently placed on either side. The hammer is made of the highly polished horns of the wild bull and is a bit larger than the needle. There is lead in the rounded head of the hammer to give it sufficient weight. The percussion side of the head is covered with leather, violet in color, so as to absorb the force of the blow.

The second type of needle is made of silver and not unlike the first in shape and length except that it is extremely thin and inserted in a short thick handle. Since it is manipulated through a small brass tube, it is called a Fundabarri or channeled needle. The tube used here is about one third of an inch shorter than the needle or about the size of a goose quill and enables one to guide the needle with greater accuracy in the process of puncturing.

The operation itself is performed in the following manner: The surgeon grasps the needle near its point in his left hand, between the tip of the middle finger and the nail of the forefinger supported by the thumb, and points it toward the area to be pricked. Having ascertained that no nerve will be touched, he taps it once or twice with the hammer in his right hand just enough to penetrate the outer skin. Having done thus, he lays aside the hammer and, taking the handle of the needle between the tips of his forefinger and

thumb, twists it until the point enters the body to the required depth, ordinarily a half inch but occasionally an inch or more. When he arrives at the place where the cause of the pain is believed to reside, he holds it until the patient has breathed once or twice. Thereupon, he draws the needle out and compresses the place with his finger in order by this means to squeeze out the vapors.<sup>8</sup>

The needle of the second type is not struck with the hammer but rather is twisted in, the operator holding it between the tips of the thumb and forefinger. Those who are especially skilled in this practice tap it with the forefinger placed on the middle finger just enough to push it through the skin and then they complete the operation by twisting. Others make use of the tube described above which, being somewhat shorter than the needle, avoids the danger of too deep a penetration. The rules governing the type of puncturing vary according to the location of the hidden vapors reputed to be the cause of the disease. Hence, it is necessary that when the operation is performed, a competent physician be present to determine the location and depth of the penetration.

Kaempfer observes that even the common people will use the needle without the advice of an expert, taking care to avoid puncturing nerves and blood vessels. Kaempfer also includes in his discourse on acupuncture a specific reference to the cure of cholera. The operation, he explains, is performed in the epigastric region by making nine punctures in three rows arranged in the manner of a parallelogram about a half inch apart. Each of these rows has its own particular nomenclature and rules. The first row is called the Sioquam and is made immediately below the ribs. The second row is called the Siquan and lies midway between the navel and the *cartilago mucronata*. The third is called the Gecquan and is made an inch above the navel. The



author relates that he had on several occasions witnessed this operation and that the pains immediately ceased as if they had been charmed away (*Velut incantata*).<sup>9</sup>

One of the most thoroughly clinical studies of acupuncture during this century has been made by the Japanese physician, T. Nakayama. Among his findings are that the treatment increases the number of red corpuscles and hemoglobin, and that it increases and/or decreases arterial congestion. Speaking of both acupuncture and moxibustion he writes, "A fact that seems unbelievable is that the blood is affected by moxibustion acupuncture."<sup>10</sup>

A more recent explanation presented by two American physicians of Chinese ancestry—Dr. Pang L. Man and Dr. Calvin H. Chen—holds that the acupuncture needles affect the two pain control centers of the human organism, one in the spinal chord and one in the thalamus. Twirling the acupuncture needles, these researchers hold, creates a flood of sensations—but none that contains pain—racing to the gates. These sensations, in effect, overwhelm the capacity of these "gates" so that the pain sensations of a surgical procedure are not transmitted to the areas of the brain where pain is registered and felt by the patient.<sup>11</sup>

Few proponents of modern acupuncture would not endorse the important caveat

that there be a scientific basis for its practice. As the British physician Felix Mann writes in a more recent work on the subject, "Practitioners who are not qualified doctors, may be tempted to try to practice acupuncture. This is dangerous. A sound knowledge of orthodox medicine is, I think, a safe foundation. Acupuncture is not as innocuous as message or herbal medicine. It is even advisable for a qualified doctor who wishes to practice the therapy to acquire practical experience of orthodox medicine with full laboratory investigations, etc., over a period of time, before he starts to practice acupuncture." The same author adds, "I think one day science will recognize that there is more to life than the interplay of chemicals and physical forces and will be able to portray the difference between life and death in a more modern equivalent of the ancient Chinese metaphysical forces."<sup>12</sup>

There is no doubt a great deal of wisdom in the observation of Dr. Nakayama—"Is it possible to consider ancient medicine as a real science? This is a troublesome question. To the moderns, indeed, there seems nothing scientific about it. On the contrary, it is covered with a prehistoric mystic patina and sometimes appears to be scarcely comprehensible. Nevertheless, when one is aware of its great therapeutic efficacy, one cannot deny its value."<sup>13</sup>

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8. *Xeipouyia puncturae instituendae haec est: Cuspidem sinistra recipiunt. inter digiti medii apicem. et indicis, pollice suffulti, ungeum; ita comprehensam admovent loco pungendo. tactu a nervis prius distincto et delecto; tum malleo dextra recepto. acum uno aut gemino pulsu per externam cutem, duriusculam illam, adigunt; hinc deposito malleo, manubrium acus, intra primorum digitorum aspicies volvendo, cuspidem ad requisi-*

tam ex legis artis profunditatem ingerunt, plerumque semiuncialem, rarius pollicarem vel majorem; verbo, ad usque doloris laticem: hunc assecuti, ad respirationem unam et alteram, acum infixam tenent, mox acu extracta locum digito permunt, quasi spiritum hac via expressuri. *Amoenitatum Exoticarum*. 586-587.

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13. T. Nakayama, *op. cit.*, p. 27.

### Optometrists May Be Excluded From Health Programs

A statute which compelled voluntary prepayment under medical and health care plans of the fees of optometrists and which provided that subscribers be reimbursed for such fees was declared unconstitutional by the Washington Supreme Court. The court ruled that the statute impaired the constitutional right of freedom to contract possessed by ophthalmologists and other physicians participating in the plan.

Various medical and health care plans had been established in the state. Subscribers paid monthly premiums for a plan that would reimburse them for fees paid to participating physicians, hospitals and pharmacists. The physicians, hospitals and pharmacists entered into agreements with the plans to render services to the subscribers. They were to be paid for these services according to the terms of the agreement.

In 1969, a statute was enacted in the state concerning the payment of fees for vision care services by such plans. It required the plans to reimburse subscribers for services rendered by any licensee, even though such licensee may not be a participant in the program.

Five ophthalmologists filed suit contesting the constitutionality of the statute. The lawsuit was filed against the state optometric association, two optometrists in the state as a class. The ophthalmologists contended that the statute impaired their constitutional right of freedom to contract. They also claimed that the statute was an unconstitutional taking of their property without due process of law.

Various ophthalmologists testified that they routinely perform eye examinations when fitting glasses. They said that they discover and begin early treatment of many serious diseases and abnormalities which only an ophthalmologist would be likely to discover. The ophthalmologists testified that optometrists would not be able to detect many of these diseases and abnormalities because the optometrists are prohibited from using drugs to dilate pupils. They described eye diseases and conditions which require early diagnosis and treatment. The ophthalmologists

testified that these probably would go undetected by optometrists.

The trial court's ruling that the statute was unconstitutional was affirmed by the Washington Supreme Court. Noting that the state's police power can be applied to protect the public health and safety, the court said that such exercise of power must be reasonably related to improving public health and safety. The court noted that the statute could lower the standard of medical care by depriving patients of the services of many highly-trained ophthalmologists. It was questionable, the court said, if such ophthalmologists would continue to participate in such programs if they were forced to practice in conjunction with such licensed healers as optometrists, chiropractors and sanipractors.

The statute was not reasonably related to public health, the court said, but was designed to collect optometrists' fees from a fund created by others. The statute, the court ruled, unconstitutionally compelled participating physicians to pay the fees of non-participating licensees. The court also ruled that the statute operated to take the property of participating physicians without due process of law.

The court noted that decisions in other states have required physicians to include optometrists, chiropractors and podiatrists in such health care programs. The court said that it found the reasoning in these cases to be faulty and unacceptable.

Three judges filed dissenting opinions. One judge said that the legislature has wide discretion in determining what is necessary for the public health and welfare. Another judge said that health care insurance contracts are subject to regulation by the state. The third dissenting judge noted that, while the contracts between the plans and the subscribers may be affected by the statute, the contracts between the plans and the physicians were not affected. Since these contracts were not affected, the judge said that the statute does not impair the physicians' constitutional right of freedom to contract.—*Ketcham v. King County Medical Service Corporation*, Docket No. 42001 (Wash.Sup.Ct., Nov. 16, 1972)

# CONGENITAL ABSENCE OF THE PENIS

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W. REDD TURNER, JR., M.D.

Congenital absence of the penis is an exceedingly unusual anomaly. This paper reports an additional case of absence of the penis in a married, middle-aged male.

## CASE REPORT

This was a 45-year-old black male who was seen by his family practitioner with a chief complaint of dysuria. His urinalysis was stated to have shown gross pyuria and physical examination demonstrated no apparent penis. The visit to his family practitioner was the first time this patient had been seen by a physician in his life. He had been born on a small farm in rural South Carolina and at no time had his parents felt the necessity for a physician's consultation. The patient was referred to a urologist for further evaluation.

The family history and past history, other than the present illness, were basically noncontributory. He had no history suggestive of past urinary tract infections. Questioning revealed that when sexually aroused the "upper end" of his scrotum became tense. He stated he had intercourse in which he was stimulated in the dorsal portion of the scrotum and pubic area, resulting in ejaculation from the perirectal urethra. The patient was married and stated that he and his wife had a "satisfactory" marital relationship.

Physical examination showed a well developed black male with absence of the penis. (Figure 1) Careful palpation of the scrotal area demonstrated no obvious erectile tissue. The urethral opening appeared to be located just anterior to the external rectal sphincter. The scrotum and contents were normal. Normal median raphe was present. The remainder of his physical examination was within normal limits.

The patient was admitted to the Medical University Hospital and initial blood chemistries were within normal limits. Urine culture and sensitivity was normal. Intravenous pyelography was done which was interpreted as normal. Chromosome evaluation showed a normal male karyotype and serum and urinary steroids were within normal limits. Figure 2 shows an oblique projection of the pelvis with a Foley catheter in the rectum and the bladder. The metal marker on the urethral catheter is at the anal verge. Cystoscopic evaluation demonstrated a urethral orifice opening just anterior to the external rectal sphincter. The prostatic urethra and bladder were within normal limits. There was no mixing of feces with urine and he was able to void indepen-

dently of fecal elimination. Psychiatric evaluation and psychological testing were carried out and he was found to be mildly depressed with normal intelligence.

Operative corrective therapy was discussed with the patient and he was opposed to any treatment and was discharged.

## DISCUSSION

The rare congenital anomaly of absence of the penis was first described by Nealon<sup>1</sup> in 1845. The conjectural occurrence of this anomaly is around one in thirty million births. In 1960, Richart and Beninschke<sup>2</sup> reviewed thirty-seven cases in the world literature and added one additional case which was born dead and had numerous other anomalies. Their review of the literature, however, noted twelve other patients in which there was no additional anomaly or no additional



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Figure 2. This is an oblique projection of the pelvis with a Foley catheter in the rectum and the bladder. The metal marker on the urethral catheter is at the anal line.

anomaly was reported. They noted that adult cases were exceedingly rare and quite often presented with urinary tract infection. Attie<sup>3</sup> in 1961 and Harafy<sup>4</sup> in 1962 each reported an additional case.

Raasch<sup>5</sup> presented a case with normal karyotype in 1968. In Campbell's *Text Book of Urology*<sup>6</sup> thirty-seven cases were mentioned and high incidence of concomitant anomalies was noted. The most recent article on this subject was Goodwin and associates<sup>7</sup> in which they presented a case with XXY karyotype and one-third of the patients reviewed by them died of associated anomalies.

In previously reported cases the urethral opening has varied from the suprapubic area to the intrarectal position forming a cloaca. It has been interesting to note that in most cases reported, the scrotum was normal and the median raphe had no relation to the urethral course. Although our case did not have an additional anomaly and Richart and Beninschke had a large number with no reported anomaly, it would seem that one must be alert for additional anomalies in these cases.

### SUMMATION

A case of congenital absence of the penis in a married, middle-aged XY male was present. He demonstrated no additional anomalies and by psychological testing was noted to have adjusted to his situation in a reasonable fashion.

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## SEXUAL STERILIZATION VIA VAGINAL FIMBRIECTOMY

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Among the newly proposed and popularized sexual sterilization methods, namely culdoscopic instillation of silver nitrate ointment into the tubes, laproscopic tubal coagulation<sup>(3,4,5,6)</sup> and vaginal fimbriectomy, the latter, in our opinion, is fulfilling ideally the whole criteria for this non-emergency intervention and also is most promising for future application.

The purpose in publishing our experience with vaginal fimbriectomy in the relatively early stage of this new approach is to help some fellow physicians who are still undecided at the crossroads.

Vaginal fimbriectomy was probably first positively recommended by Bogesen and McRae<sup>(9)</sup> in 1948. They reported good results on 169 patients sterilized by the vaginal route. More recently, a few<sup>(10,11)</sup> enthusiastic articles dealing with the same procedure have been published. On the other hand, abdominal fimbriectomy was proposed by W. F. Kroener, Sr. in 1935 and performed over 1,200 times without known failure as reported by Kroener, Jr. in 1968.<sup>(7,8)</sup>

This study covers 50 vaginal fimbriectomies which have been performed prior

to 1973. The average age was 30.5 years with a range of 24 to 41. Average parity was 3.0 ranging between 0 - 8. Thirty-eight patients had been on birth control pills at the time of operation for an average time since last delivery of 3.7 years with a range of ½ to 8 years. A history of previous PID or abdominal surgery was not an absolute contra-indication to surgery. Two patients had three episodes of PID, one had a febrile course post cesarean section. Three patients were treated with INH after having converted to a positive tine test, one had multiple sclerosis, and one sarcoid. Nineteen had had appendectomies, four had had six cesarean sections, one had had an ectopic pregnancy, one had had an ovarian cystectomy, one had had a rectal prolapse with abdominal repair, and seventeen had had D & Cs — mostly associated with abortions. The only criterion for vaginal intervention was the absence of gross adnexal pathology.

### *The Procedure*

The procedure begins with posterior colpotomy done under general anesthesia. By pulling on the cervix and moving the fundus of the uterus from side to side with a sponge stick, the ovaries and tubes usually can readily be brought into view. By means of a long Kelly or Babcock's

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Since the completion of this study, a further 40 patients have been fimbriectomized vaginally successfully without mentionable complications.

forceps, the fimbrial end of the tube is grasped and should be mobilized as much as possible using gentle traction. A second clamp is closed across the tube and its mesosalpinx. A free-hand #0 chromic suture is then placed as far medially on the tube as possible. A second stick-tie suture is then placed distal to the first and tied. The tube distal to both ties is then excised. The colpotomy incision is closed either in one or two layers with #0 or #1 atraumatic chromic suture.

Average operation time was 27.6 minutes with a range from 10 to 50 minutes. Average blood loss was 92 cc with a range of 50-200 cc. The patients were fully ambulatory the afternoon of the surgery. They were observed overnight and discharged the next morning. Average hospital stay was 2.08 days with a range of 2 - 5 days. Five patients (10 per cent) stayed longer than 48 hours. The patients were seen routinely in three weeks in the clinic. On discharge they were instructed to have no intercourse and to use a Furacin vaginal suppository nightly. Many patients were school teachers, secretaries, office workers etc. who returned to their jobs within 2 to 4 days.

#### *Results and Complications*

##### *Operative:*

The immediate operative difficulties were visualization and mobilization of the fimbrial end of the tubes. Six patients were found to have periovarian, peritubal and cul-de-sac adhesions. Two had adhesions so dense that the fimbrial end of the tube could not be mobilized. In both patients the posterior surface of the uterus was retroverted into the colpotomy incision so that the cornual aspect of the tube could be reached. A modified Pomeroy procedure was then carried out. One patient had undiagnosed endometriosis in the cul-de-sac upon entry, but this presented no problem with the surgery and the other pelvic organs appeared normal.

Second, hemostasis, as always, can be a problem. Most of the blood loss came from

the vaginal mucosa — especially in the lateral angles. No intrapelvic hemostasis problems were encountered, and no patient needed laparotomies for uncontrolled bleeding. Two incidental proctotomies were performed. This represents a 4 per cent incidence, which is unacceptable high. Both were encountered early in the series. The first patient was recognized to have a high rectocele, but at the time of entering the cul-de-sac, the rectum was entered. This was immediately closed with two layers of interrupted 3-0 chromic gut. The cul-de-sac was then entered and the operation completed. The patient remained afebrile through four days of hospitalization and had normal bowel movements. Her post-operative recovery was uneventful. The second patient is felt to have had a congenitally high cul-de-sac. Both proctotomies were below the peritoneal reflection and both healed without incident. Five other operative procedures were performed at the time of the fimbriectomy — three simple ovarian cystectomies, one paraovarian cystectomy and one posterior colporrhaphy.

##### *Postoperative Problems:*

One pelvic hematoma which resolved without drainage was seen. Three patients complained of some dyspareunia in the first two post-operative months. Two resolved spontaneously and one now has only occasional positional dyspareunia. One patient who had been operated for rectal prolapse developed a severe constipation which necessitated considerable treatment. Menstrual problems affected ten patients after discontinuance of birth control pills after surgery. No pregnancies have yet been reported in this series.

##### *Amount of Tube Removed*

Many questions arise as to whether removing only the fimbria will be sufficient in that a good portion of "normal tube" remains in situ. Will this rather longer "stump" recanalize more frequently and serve as a reservoir for PID or form painfully dilated and symptomatic hydro-



salpinges? The answers to these questions will depend on larger series and longer follow-up studies. From the measurements on the pathology sheets, the average length of the tubal segments removed was 2.98 cm with a range from 1 to 6.5 cm.

#### *Hystero-salpingogram Evaluation*

Eleven patients (22 per cent) were followed with post-operative hysterosalpingogram - verified bilateral blockage at various levels throughout the tubes. Two patients showed some preblockage dilation and saculation. One patient showed definite spillage through one tube, but normal architecture of the tube had been altered. We agree with Peterson & Behrman,<sup>(3)</sup> Black<sup>(4)</sup> and Wheelles<sup>(5)</sup> that hysterosalpingograms should not be a routine post-op evaluation and that it is possible that this procedure may cause rupture of the tube or recanalization and can increase the chance of conception later.

#### *Discussion*

1. In the present state of our knowledge, it does not seem possible to offer a technique which will meet with universal approval. Nevertheless, there are some well proven facts that should be considered in our approach to tubal ligation. One well established fact is that puerperal ligation has a higher failure rate than interval ligation for whatever reason.<sup>(1,9,12,13,14)</sup> Certain technical procedures, such as crushing the tube and tying the cut ends together with permanent suture will worsen the effectiveness of any given procedure regardless of the operative technique or operation. The vaginal fimbriectomy, we feel, offers the best advantages presently known to medicine. It forces one to do the interval ligation, makes positive identification of the tube necessary, removes a segment for pathological confirmation, and allows one to diagnose or treat other associated pelvic conditions, as well as having as low a failure rate, if not lower, than any procedure yet used.

2. We believe that fimbriectomy adds

effectiveness to this procedure. From the work of Mastroianni and Noyes with infertility patients who showed the need of a functional fimbrial end of the tube, we can assume that the loss of the fimria will greatly reduce conception *even if the tube remains patent or re-canalizes*. It disturbs us greatly to see spill in one patient on x-ray examination, but we are hoping that the patient's lack of a functional fimbrial end of the tube will give her protection.

3. Kroener described his method of using zero silk suture about the tube. We have used zero chromic suture without real basis other than the generalized notion that absorbable suture is better used via the vaginal route in case of infection and pelvic abscess formation. Perhaps using permanent suture would have prevented the spilling noted above, or perhaps silk suture may have caused two or three pelvic abscesses, which we did not have.

4. Patient pre-operative counselling, as with any sterilization procedure, must be complete. We had the feeling that some patients were slightly disappointed post-operatively. Some expected a highly improved sex life as they attributed their pre-operative sex problems to the birth control pills. Some felt that they would lose weight after stopping the pills and they were unhappy when they did not. Patients should understand that once they discontinue the pills, their own irregular, heavy, painful pre-pill periods will probably return. Their looks will also remain unchanged. Tubal ligation of any sort, *only prevents pregnancy and removes the need for use of other contraceptives*, nothing more!

5. We agree with Dr. W. Dow Edgerton<sup>(3)</sup> that no list of absolute contraindications as proposed by McMaster and Ansari<sup>(10)</sup> is necessary. It is true that ones suspicion should be alerted by a history of PID, previous pelvic or abdominal surgery, but only a pelvic examination will lead to the final decision regarding the

possibility of vaginal approach. There will be occasional unsuspected adhesions encountered, but one can still accomplish the ligation, and the patient can benefit from the paucity of postoperative complications and the shortened convalescence period.

6. And, finally, just because laporocopy is new, does not mean that it is necessarily better. Our statistics compare favourably with the combined figures in the literature and agree entirely with Smith and Symmonds.<sup>(11)</sup> Our operative time of 27.6 minutes compares with 25 and 30 minutes reported. Failure rates cannot be compared yet, as there are too few cases and too short follow-ups. Anhydrosalpingogram spill of 2% compares with 3% and 4.8% in the literature. Our failed procedure (2%) compares with 2.7% and 1% in the literature. Our 2.08 days hospitalization compares with 3.6 days,<sup>(4)</sup> 1.5 and 2.0 days.<sup>(9)</sup> That, of course, brings up the length of stay of the outpatient procedures. Many of our patients were well enough on the afternoon of surgery that they could have gone home. We are not

willing, however, to dispense with the postoperative night spent in the hospital just to save \$50-\$100. Wheelles<sup>(5)</sup> reports one aspiration pneumonia, but it could just as well have been aspiration and death. Our whole purpose for performing sterilization procedures is to provide couples with increased quality of living — not at the risk of death. Tubal ligation is still an elective procedure for most of these patients, and we should be performing elective surgery under optimal, not suboptimal, compromised conditions.

In summary, combining the vaginal approach to the pelvis with its low morbidity, low side effects and high patient acceptability with the now proven simple but very effective vaginal fimbriectomy provides quick, safe, sure method of interval sterilization which has been shown to be superior to puerperal sterilization. This can be done in any hospital by any fully trained gynecologist with our present, usual, vaginal operative instruments and equipment. We, therefore, recommend it heartily for trial and/or acceptance.

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# President's Pages

## METAMORPHOSIS IN MEDICINE FOR BETTER OR FOR WORSE

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Several of my friends have urged me to submit for publication in this journal a presidential address given by me before the Southern Surgical Association in December of 1971 because it was felt that the facts and principles expressed were still true and sound and that it should have wider circulation among the members of the medical profession of this state than it had apparently attained.

After further consideration, and consultation with others, I agreed to do so, with the kind permission of *The Annals of Surgery* in which it was originally published in May 1972. Of course, since that time Congress passed Public Law #92-603 in October of 1972. This act authorized further interference in the practice of medicine by the Federal Government by providing for health maintenance organizations, and professional standards review organizations.

Concerning health maintenance organizations, a professor of economics at one of the best known universities in this country had this to say recently, "The Kaiser-Permanente Health Care Program is the model. But there is little reason for optimism. Prepaid medical planning in the United States has not gone anywhere very fast, nor is it likely to, short of a political revolution. While Kaiser-Permanente has not served California badly, it has also not had real success outside that state. Health Insurance Plan, New York City's contribution to prepayment, is weaker to-

day than a decade earlier. In the face of a record that shows conspicuously slow and unsteady growth, it is difficult to understand the newfound enthusiasm for HMOs, most of which are still confined to paper."

Concerning the future implications of professional standards review organizations, it should be realized that quality medical care is not synonymous with peer review, medical audit or utilization review.

Acknowledging the above events, there follows a copy of the original address.

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American Medicine and Surgery are now under attack as never before. One hears or reads, all too commonly, statements to the effect that National Health Insurance is inevitable, or that health care can no longer be provided by solo practice, or that our health care system is a non-system not geared to the real needs of real people. There are many other examples degrading the quality and character of the practice of medicine today, but the above will suffice. It is my purpose to review the nature of these attacks, to examine their validity, and to review some of the proposed solutions to the real or fancied problems. Further, I have mustered the courage and temerity to offer observations and recommendations for the consideration of the members of this venerable Association and of the medical profession at large, and of the laity, political and non-political.

Many of the attacking statements are based on inaccurate or improperly interpreted data. Others would appear to re-

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flect merely the desire or near obsession of some politicians and other liberals, that the role of the federal government be expanded to provide for medical care of the entire population. Of course, this would represent imposition of socialism on the American public, at least as far as the practice of medicine is concerned, with centralized planning, control by bureaucracy, loss of right of choice of physician by the patient, and the elimination of the fee-for-service method of payment.

It is time that our pluralistic system of delivery of medical care be defended with truth and vigor. Generally, doctors claim that they are too busy with professional matters to become involved in the political arena where crucial matters concerning the practice of medicine, and therefore, the health of the public, are now under discussion. Admittedly, most doctors are busy, but we are confronted with the astounding fact that an astonishing number of people who know nothing about the practice of medicine are trying to decide how it should be practiced. It is evident that unless doctors emerge from their professional isolationism, the result may be a distinctly adverse one, not only from the standpoint of doctors, but more importantly from the standpoint of the public.

Our system of practice has been associated with the greatest advances in the body and complexity of medical knowledge and its practical application ever known to man. What then, has precipitated the barrage of attacks on it, and the accompanying flood of proposals for radical changes in the manner in which it is to be practiced and financed?

Probably foremost among the complaints is that there is a critical shortage of doctors. Actually, there are approximately 325,000 physicians in the United States, representing approximately one physician for each 630 persons. In contrast, Britain and France, whose populace enjoys the alleged benefits of a Na-

tional Health Program, have one physician for each 900 persons.

It is complained that of the 325,000 physicians in this country, only 200,000 are engaged in an office-based practice. But little mention is made of the others, many of whom are also involved in the provision of primary medical care. They include doctors engaged in industrial medicine, military medicine, public health, medical education, research, and hospital administration. It would be extremely shortsighted to overlook the magnitude of their services. Actually, they are indispensable for many people, such as those in the military services who do not have access, or need access, to doctors in office-based practice.

It has been claimed that the United States is approximately 50,000 doctors short of future requirements, yet the assertion was based upon the assumed growth in population of two per cent per annum. Actually in 1968, the census bureau reported a growth of only one per cent. Obviously, the figure of 50,000 is already inaccurate.

Between 1950 and 1970, the physician population has almost doubled, even though the general population increased by only one-third. There has been an increase of approximately 40,000 doctors since 1965. The number of students entering medical schools this year represents almost a 40 per cent increase over the number entering as recently as 1965. These facts certainly refute any charge made by irresponsible politicians that the A.M.A., or any other body, has attempted to maintain a monopoly on medical practice or to restrict its availability.

Yet it is true that there is a shortage of doctors, especially in rural towns and in urban slums. There are numerous evidences of this. The fact that people at times cannot find a doctor, unquestionably accounts for the increased use of emergency rooms throughout the country. Even so, with the modes of transportation

in use today, medical facilities and personnel are available, with rare exceptions, for those who would seek them.

Another complaint has been that there has been a maldistribution of doctors. Medicine has become much more scientific in the past thirty years, and there has been a decided trend toward specialization and away from general practice. The factors determining the choice of a location to practice have been the availability of a hospital with adequate facilities to permit practice in accordance with the principles learned in medical school, along with economic opportunity and a desirable environment for the family. There is no reason to believe this is going to change or should change. But certainly more Americans have been receiving more and better care than ever before in the history of the nation. There is no basis for any claim that there is a "health care crisis" in this country.

A further complaint is the high cost of medical care. According to figures cited by the Department of Public Welfare in South Carolina, only nine per cent of the entire costs of the Medicaid Program are paid to doctors. For the nation, only 12 per cent of the costs of Medicare have been paid to doctors.

The enemies and critics of private medicine infer that there is something in private practice which causes the costs of medical care to be continually on the increase. In the 12 years prior to 1968, the average annual increase in physicians' fees was 3.7 per cent; the average annual increase in general wages was 4.2 per cent.

Major increases in the cost of medical care have not been in charges of physicians, but mainly in the cost of hospital care. The rises in hospital costs have been directly related to inflationary policies of the federal government, since the days of Franklin D. Roosevelt and his Socialist cohorts and advisors such as Henry A. Wallace and Wilbur J. Cohen. When hospitals became subject to the minimum

wage laws, the costs increased sharply. The increase in remuneration to non-skilled workers has contributed tremendously to the oft-quoted cost per patient per day. Until recent years, the skilled professional staffs of nurses, interns, and residents were definitely underpaid, and it is hardly justified to claim that the award of appropriate salaries to them has represented any economic felony. Hospitals are also purchasers of a tremendous range of goods of a non-medical nature, all of which have increased in cost. Scientific advances have called for the acquisition of an increasingly large number of expensive and complicated mechanical and electronic devices necessary for the study and treatment of disease. The government and the public would be the first to complain if hospitals did not possess such equipment. The cost and character of such equipment make much of it entirely impractical for an individual doctor to own or to lease to keep in his office, much less transport to a patient's home. Paradoxically, it is of interest that it is labor which has objected most vociferously to the increasing cost of illness and hospitalization. Yet much of the increase has been due to a considerable rise in wages for non-professional workers as a result of strikes of non-professional hospital employees in recent years, as well as demands by labor in Congress for increases in the minimum wages for all hourly-paid workers. Possibly the labor unions have forgotten that they were unable to control successfully their own medical and welfare programs in the 50's and 60's and ultimately had to sell all of the hospitals they owned in Kentucky and West Virginia. The proponents of all medical care under federal government sponsorship apparently overlook the fact that private patients who pay their own bills, either directly or through private insurances, in non-federal hospitals have an average stay of eight days. In contrast, the average stay of a



patient in a U. S. Public Health Service Hospital is 18 days, and the average stay in a Veterans' Administration Hospital is 22 days.

It is a paradox that the acceptance of Medicare patients in a participating hospital has actually driven up the cost per patient per day to other patients, by virtue of Medicare policy of compensating hospitals only for actual care costs. Since the allowed costs do not include legitimate items as maternity and pediatric services, nor depreciation for maintenance of its physical plant and equipment, many participating hospitals have lost money on Medicare patients. It is interesting that the government in its zeal to assist the aged, has made hospital costs more expensive to others.

In spite of increased federal government participation in the practice of medicine since the advent of Medicare and Medicaid, the per capita expenditure for medical care, according to a Social Security Bulletin for January 1971, was \$172.36 per year. If one acknowledges that the increase in total costs for all Americans between 1960 and 1970, is partly accounted for by an increase in the population by 22,000,000 and by very significant inflation, it is apparent that the United States citizen still enjoys a bargain in medical care.

It is truly remarkable that the foes of private practice have the rashness to criticize the improved methods of medical care available to the citizens of this country in the last 50 years. A significant factor has been increasing support of research by government until recent years, and it would seem that it would be apparent to those of a rational mind, that its continued support of research, without tampering with the system of rendition of medical care, would likely be followed by another period of gratifying advances.

The high quality of medicine practiced in the United States is recognized

throughout the world. Post-graduate training in this country is sought by numerous graduates of foreign medical schools. The number of graduates of schools in this country seeking post-graduate training in other countries is miniscule. Any claim that medical care in this country is of a low quality, is surely unfounded.

However, there is little that couldn't stand improvement, and it is agreed that the availability of medical care to the poor could be improved; but there is no reason to believe that it could be better administered or financed on the federal level than it could on the state, county, or municipal level, as currently practiced in numerous areas throughout the nation.

There are other miscellaneous criticisms, such as the claim that there is too much emphasis on treating the sick, and not enough on preventing disease. How can one do more than is being done now without better public education, increased knowledge of the causes of degenerative disease and genetic defects, and without methods of control of over-indulgence by some in eating, smoking tobacco, drinking alcohol, using drugs in excess, or driving automobiles too speedily and recklessly. In spite of extensive public educational programs carried out for years, by such organizations as the National Tuberculosis and Respiratory Disease Association, the American Cancer Society, and others, the sick still do not seek medical advice and treatment soon enough. The well could hardly be expected to perform better.

As an answer to the alleged deficiencies in the present system of medical practice, hosts of politicians and others are promoting new and expansive programs generally grouped under the term "National Health Insurance."

Those in favor of a national health insurance seek a higher level of health for the population. One is reminded that Kampmeier recently stated that "our peo-



ple and lawmakers cannot understand that good health and cure of disease cannot be promised." They have taken no heed. They also claim to seek geographic and financial access to care for all, without realizing that medical care alone cannot compensate for inadequate income due to lack of skills, for poor housing, for lack of education for guidance in spending resources for nutrition and sanitation, or for environmental problems such as air pollution. They also seek a higher priority for economy in the rendition of medical care and more coordination of medical services, while they forget that in all hospitals, including private hospitals which are not recipients of any monies from tax sources, economy is stressed continually. As for coordination, they forget that no one yet has shown that a patient gets any better care under a group practice arrangement than under a solo-type practice with referral to proper consultants when indicated. Better coordination of medical services is also meant to avoid duplication of facilities and personnel, and under many actual and proposed comprehensive health planning laws, competition is to be eliminated. Apparently, it is forgotten that healthy competition is the salvation of the consumer, be it medical care or in other goods and services, and it is certain that the public is the beneficiary of competition among doctors and competition among hospitals.

They also seek comprehensive coverage and elimination of risk of personal financial catastrophe through illness, without regard to the fact that three out of five people in the nation under 65 with private health insurance protection own some sort of catastrophic coverage; that insurance companies and other prepaid group plans provide major medical coverages and other forms of extended protection, to a total of 109 million persons. The vast majority of the others have access to medical care now through government

programs already in existence at the federal, state, county, or municipal levels, chiefly the last.

#### PROPOSALS:

The major legislative proposals for some type of national health insurance being introduced now number at least nine.

Among those receiving the most attention to date have been the National Health Insurance Partnership Plan of the Nixon administration, the Health Care Insurance Assistance Act as endorsed by the A.M.A., and the Health Security Act also known as the Kennedy-Reuther Bill.

Under the Nixon plan, employers would be required to provide comprehensive health insurance for their employees, utilizing insurance available from private companies. The plan would also promote Health Maintenance Organization (HMO), which may be described as a medical care plan which inculcates the loss of right choice of private physician, and abolition of the fee-for-service. The scheme would provide all medical care, therapeutic and preventative, in return for a pre-paid fixed annual fee, at presumably less cost. However, such groups are having their own troubles holding down costs. Kaiser-Permanente is still raising rates. Effective utilization of the professional staff is in jeopardy. Doctor Sidney R. Garfield has stated: "Only after years of costly experience did we discover that the elimination of the fee is as much a barrier to early sick care as the fee itself. . . . The usurping of doctors' time by healthy people actually interferes with the care of the sick." One cannot fail to make the observation also, that in a prepaid group practice on a capitation basis, the need for profit may result in failure to treat a patient. Also as part of the Nixon program, there is a Family Assistance Plan, which would provide a guaranteed minimum annual salary for not working even if one were able to do so. Unquestionably, the Family Assistance Plan would under-

mine the well-being of this nation, and the entire Nixon plan should be defeated.

The A.M.A. endorsed program "Medi-credit" would be available on a voluntary basis to all citizens under 65. It is designed to remove financial barriers that prevent the poor and near poor from obtaining comprehensive health insurance. The estimated cost for this program varying from \$12 to \$15 million dollars, is less than the others, but still excessive.

The Kennedy-Reuther bill would be compulsory for everyone, and would provide virtually unlimited coverage. This bill would require a National Health Security Board with regional and local extensions. The adoption of any plan which calls for the establishment of such a monstrous bureaucracy to administer it is wasteful and wrong, and the cost in this plan is prohibitive.

All of the other plans also provide for nationalization of medical care to a greater or lesser extent. It is appropriate at this point to review experiences of foreign countries with government health programs. In general, in Europe, these have been characterized by overcrowding, inadequate and frequently outdated facilities and equipment, shortage of personnel, impersonal attention, lack of privacy, and long waiting lists for admission to governmental hospitals.

Hospitals in England have been so crowded that patients would have to climb over each other's beds or over the foot of the bed. Bathroom facilities are frequently inadequate. After 1948, when the British Health Service was inaugurated, there were no new hospitals built in England until 1962, and very few have been built since then. A report of distinguished physicians and surgeons recently stated that adequate emergency facilities were available in only 30 per cent of Britain's hospitals. The number of patients awaiting admission was estimated to be one-half million. It has also been reported that the waiting time for a patient to have

the tonsils removed was ten years.

In Britain the cost of the National Health Service is now seven times what it was estimated to be. When one discounts inflation, this is still three times what its proponents claimed it would be. Increase in costs has not been due to any increase in doctors' fees and certainly not to the expense of building hospitals, but to increased operating costs of the bureaucracy necessary to administer such a system.

More and more Britons are now seeking medical care outside the National Health Service. A poll taken 15 years after National Health Service was instituted, showed that 87 per cent of the people, including almost as many Laborites as Conservatives, opposed universal and compulsory socialized medicine. At present, Private Patients Plan, a non-governmental medical plan, has over 150,000 subscribers, and the British United Provident Association, a similar plan, has enrolled over 2,000,000 subscribers. They seek the convenience and quality of private medical care even though they have to continue to support the government program.

It has been reported that approximately 25 per cent of the graduates of Britain's medical schools are now emigrating each year, and that many a British medical student picks up his diploma and his airline ticket on the same day. Fewer students are studying medicine in England now than before World War II. England had 44 thousand physicians before instituting socialized medicine, and now only 23 thousand physicians. By reasonable standards, one would have to class socialized medicine in England a failure.

Also, on the Continent, there have been the same problems of shortages of personnel and overuse.

In France the health fund is operating with an increasing deficit each year.

In Germany there is a shortage of hospital beds — hardly a surprise, when one considers that the average stay in



the hospital is 24 days, compared to 8 days in the United States in a non-federal hospital.

In Sweden, nationalized health care has driven up costs and driven out physicians.

After a lengthy study by the staff of the Philadelphia Inquirer a few years ago it was stated, "None of the European systems studied offered substantial incentive to doctors to do a superior job. Many of them in fact reward inefficiency."

In addition to the legislative flurries intended to alter the character of medical practice in this country there has been another activity centered around the Foundation for Medical Care.

Historically, medical care foundations were established to protect private practice on a fee-for-service basis from extensions of the Kaiser-Permanente system of prepaid comprehensive salaried group practice. This happened in California and apparently the development of foundations has spread across the country.

The basic purposes of a Foundation for Medical Care are to preserve the freedom of choice for both patient and physician, to preserve the physician-patient relationship, and to plan for medical care for all citizens to be available in good quality at reasonable cost. The usefulness of a Foundation remains to be seen. To date, it has been intended mainly as a device to keep control of peer review under the control of physicians.

Concerning peer review, the federal government has stated that it will not deal with Medical Societies in this matter, and whereas the membership in a Foundation is virtually one and the same as the membership in a state or local medical society, it would seem to be rather naive to believe that the government will deal with the Foundation except on the government's terms. It is ridiculous to think that doctors can set their own fees if the nation's health is subsidized extensively by federal money.

So far, it has been easy to recite and

reply to many of the questions about the private practice of medicine and surgery as we know it today. At present, it is a pluralistic system which has evolved because it has filled the needs of the public, and has filled them effectively. But needs will change as surely there is no life without change. The phthisiologist of 50 years ago no longer exists, and certainly no one could have foreseen the scope of the cardiovascular surgeon of today. These are but two examples of changes too numerous to list. Since we know there will be change, the question is whether it will be for better or for worse.

It is complained that the medical profession is always opposing changes. This is not true. We are always seeking change for the better. Is it shameful to oppose changes that will lead to impairment of the quality of medical care available to the public? Is the everlasting tendency toward dependency on the federal government progress or regress? Should we profit by the experiences of foreign countries with nationalization of medical care?

The problems of medical care in this matter can be solved by continued examination of its multiple aspects, and methods of practice can continue to evolve in a logical manner. There is no reason to believe that a sudden and radical transformation of the entire medical care system is indicated. Among the problems needing continued examination are the following:

Premedical education warrants continued study. Does one need four years of college education to qualify for admission? Should there be a lowering of standards for admission for those in the so-called minority groups? Certainly we should insist that admission to medical school be based on character, motivation, scholastic attainment, and scientific excellence, and not on social consciousness or class.

Medical education needs to be under continued scrutiny. The present trend to-



ward the allotment of increasing time for elective courses at the student's will, after completion of the so-called core courses, is open to serious question. Just as it has been generally agreed for years that the specialist in any of the multiple phases of surgery needs first a broad training in basic general surgery, so it is believed that the medical student of today, more than ever, needs a broader exposure to all aspects of medical science than we are inclined to give as requisites in our presently permissive curricula.

Graduate medical education for many now constitutes an equal or larger half of the education of the physician, especially for one in any phase of surgical practice. Our residencies and fellowships must be surveyed repeatedly to maintain their worthiness.

Post-graduate medical education must be encouraged more than ever to insure that the quality of medical care dispensed by the profession at large is maintained at a level of great proficiency. No doubt the enrollments in post-graduate courses, and the results of the Surgical Education and Self-Assessment Program of the American College of Surgeons, and similar programs will influence decisions on the future needs.

The existing shortage of doctors should be corrected, and we should seek further financial support for scholarships for deserving students, salaries for teachers, schools for registered and practical nurses and para-medical personnel, and research.

The uneven distribution of doctors needs to be examined further. With the available modern modes of transportation, why should not the patient be expected to come to the doctor? One might even ponder the future use of the helicopter. It has certainly proven its worth in battle. In civilian life, its use in dire emergencies has already been of incalculable value in saving life, and no doubt it will become increasingly practical in time.

The matter of enticing doctors to prac-

tice in rural towns or in urban slums is a difficult one. It will not come to pass unless all of the ancillary facilities needed for practice are conveniently available and it is made economically attractive. In this regard, a town may create a foundation to support a medical student through long-term loans in exchange for his agreement to settle and practice there after the completion of training, with provision for repayment when his remuneration from practice makes it possible. This is actually no different from the subsidization of medical students by the Military Services, in return for later service, that we have known for years. This was also the practice of the Commonwealth Foundation in former years in Tennessee and Kentucky. The doctor gets needed support and the community gets a doctor with concomitant return of its investment in money and in service. No doubt a similar type of plan could be developed for an urban slum, with financing through a private foundation, or a city or county governmental agency.

The efficacy of physicians' assistants needs to be evaluated. Of course, nurses have served admirably in this capacity for years. In view of the shortage of nurses, it is most logical that others should be trained to serve also, especially in capabilities requiring varying degrees of technological skill.

The hospital as the main source for medical care in the future is an intriguing subject. Will the technical aspects of medical care, ever attain a degree of dominance that will dictate its presence only in hospitals, because of economic consideration? It has already for some phases of medical practice. But who can foresee all the potentialities of telemetry, or of automated multiphasic screening programs?

The hospital emergency room, even now serving as an outpatient clinic by day and by night in many cities, offers a tremendous potential for making medi-

cal care more readily accessible to the public. The formation of the American College of Emergency Physicians is a most interesting development. What minimum standards of training should be required for the members of this new specialty? What role shall the new specialist in Family Practice play in this setting? No doubt these questions will be answered in appropriate time, in the best interest of the patient.

The public must be taught to realize that medical education and medical care are expensive and will continue to be so.

Further, we should seek increasing representation by doctors on governing boards of hospitals.

In closing, basically, our problems are two: the first is the definition of health; the second is the method to be invoked to cover its cost. It is remarkable to say that there is no complete agreement on the definition of health. If it is accepted that the definition of health is a state of mental, physical and social well-being, and a fundamental right of every citizen of the United States, it is apparent that we cannot promise it or fulfill it no matter what method of practice or payment were to be invoked. If we accept the definition that health is a state of

physical and mental well-being, with freedom from disease and infirmity, to which every citizen of the United States should have equal access, then we have a practical goal which the medical profession in its compassion for mankind can reasonably fulfill, provided the task is left for those who are qualified to devise the methods, assess the results, and plan improvements accordingly.

In summary, I quote in part a well known lay writer (Schwartz):

"In an area of increasing and justified disenchantment with the government it is astonishing that so many well-meaning and intelligent reformers essentially want to nationalize American medicine. One would have thought that the postal and public school systems would have taught them long ago that nationalization does not mean efficiency. Based on the record of the past, we have every reason to suspect that if the revolutionary proposals for transforming American medicine are adopted and implemented, medical care in this country will cost more while providing less satisfaction and poorer treatment for millions."

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# Editorials

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## A Peril — A Paradox

Most of us would prefer just to treat patients and are not truly interested in legislative activities, Governor's task forces, Reorganization Commissions, etc. But right now, we had better be interested, **and active**, in these things!

A recent recommendation put to our State Legislature would effectively remove the South Carolina Department of Health from the influence of the South Carolina Medical Association. We believe the South Carolina Medical Association is the repository of talent, interest, ability, knowledge and concern about the health of the people of South Carolina. We believe the South Carolina Medical Association should be the chief instrument in selecting the Executive Committee of the State Board of Health, as it has been in the past. As it now stands, the South Carolina Medical Association nominates seven members and the other professional organizations—dentists, pharmacists, veterinarians, and nurses—nominate one each. This seems appropriate.

But under Reorganization Plan No. 10 filed by the State Reorganization Commission, this would all end. Plan No. 10 calls for consolidation of the State Board of Health and the State Pollution Control Authority into a new agency—The South Carolina Department of Health and Environmental Control. This is not ominous in itself, but direction of this new agency would reside in the South Carolina Board of Health and Environmental Control. This board would consist of seven members, one

from each congressional district and one at large. The Governor, under the advice and consent of the Senate, would appoint these members. Ergo—the State health agency would have little or no input from the professional organizations qualified in the field. This is our peril. We must exert every effort to maintain our rightful influence in health matters in South Carolina. We must actively support the present arrangement. We must use all political clout available before it is too late!

This is the peril we must resist. Where is the paradox? Almost simultaneously with the release of the just discussed and cursed Plan No. 10, was the release of a proposal on the question of a second medical school in South Carolina by a combined legislative and lay study committee. The substance of this report is not pertinent to this discussion. What is tragic is that the South Carolina Medical Association declined the opportunity to participate in this study. One of the most significant, important and far reaching **medical** decisions to be made in South Carolina in this decade is certainly the question of a second medical school. And, the South Carolina Medical Association declined to participate in the study!

From here, it seems pathetic and paradoxical that we must (and we **must**) fight for our right for influence on the State Board of Health or its successor, while we reject our responsibility in having a voice in the second medical school question.

E.E.K.

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## 50 YEARS AGO

May, 1923

The Association met in Charleston for its 75th anniversary in a very successful meeting. Dr. L. O. Mauldin of Greenville was elected president. Dr. C. F. Williams wrote on mental hygiene and outlined the problem in South Carolina. Total disbursements of the Association came to \$4,283.35. The Woman's Auxiliary was organized.



The Federation of State Medical Boards of the United States at its Annual Meeting in Chicago re-elected **Harold E. Jervey, Jr.**, Treasurer, for his twelfth consecutive term. He was also elected to serve on the Board of Trustees of the Educational Council of Foreign Medical Graduates. **Dr. William C. Cantey**, Columbia surgeon, was installed as president of the Southeastern Surgical Congress at its national convention in New Orleans recently. **Dr. Hunter R. Stokes**, a Florence Ophthalmologist, was honored by the South Carolina Jaycees as one of South Carolina's outstanding young men. **Dr. L. E. Brailsford**, a member of the South Carolina Appalachian Regional Health Council for the past six years, was elected chairman of the health planning organization. The Spartanburg surgeon will serve a one-year term.

**Dr. Jennings K. Owens, Jr.**, a Bennettsville physician, has volunteered to work with Vietnamese physicians for eight weeks. The program is sponsored by the AMA. **Dr. James E. Ramin** has been named director of the Radiology service at the Veterans Administration hospital in Columbia. Dr. Ramin is a graduate of the Marquette University School of Medicine, graduating in 1950. The Spartanburg General Hospital Board of Trustees approved the appointment of **Dr. Arnold Leo Denler** as an active member of the hospital staff. Dr. Denler

attended medical school in Mexico and interned in California. He is one of the first doctors to complete the family practice program in Spartanburg. **Dr. Bernard Bordman**, formerly chief of surgery at Powers Medical Center in Colorado arrived in Kingstree, where he will be associated with **Dr. James F. Connally** in the practice of general surgery.

**Dr. Linton B. West, Jr.**, has joined **Dr. John S. Evans** in the practice of urology. They are located at 1003 Grove Road, Greenville. **Dr. Thomas Marion Verdin** will complete his duties as chief resident at Greenville General Hospital and will begin his pediatric practice near Hillcrest Hospital, Fountain Inn, on July 1. **Dr. Curtis Lynn Farrar** of Irmo has entered the general practice of optometry in Columbia in association with **Dr. Bernard Frank**. **Dr. S. Dean McPhail** has announced the opening of his office for the practice of obstetrics and gynecology in Easley. He graduated from the Medical University of South Carolina in 1963. **Dr. R. M. Mandanas** has opened his office for the practice of internal medicine in West Columbia. Dr. Mandanas graduated from the College of Medicine and Surgery, University of Santo Tomas, Manila, Phillippines, in 1961. He was a member of the medical staff of the Veterans Hospital in Columbia from 1970 to January, 1973.



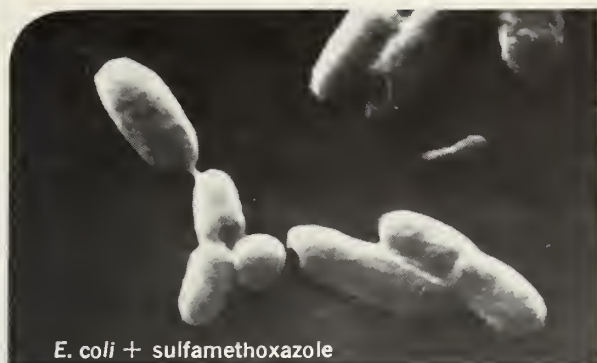
# Encounter under the Scanning Electron Microscope



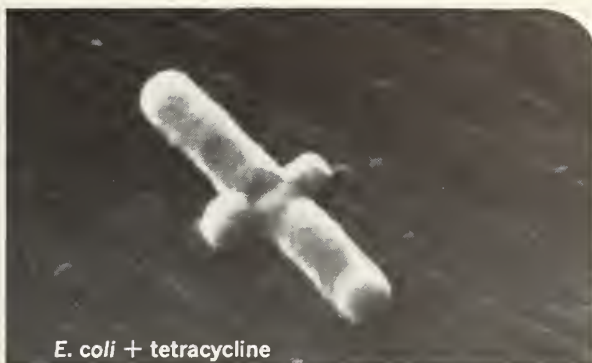
## SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in

detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.



*E. coli* + sulfamethoxazole



*E. coli* + tetracycline



*E. coli* + cephalothin



*E. coli* + ampicillin

## Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,<sup>1-3</sup> strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of

its mechanism of action.

"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."<sup>2</sup>

It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.

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**Contraindications:** Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

**Warnings:** Safety during pregnancy has not been estab-

lished. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** Blood dyscrasias (agranulocytosis,



# Encounter in Clinical Practice

## Control of primary bacterial offenders

Antibacterial Gantanol® (sulfamethoxazole) controls susceptible strains of *E. coli* and other gram-negative and gram-positive organisms

often implicated in acute nonobstructed pyelonephritis and cystitis.

## Prompt antibacterial blood and urine levels

In from 2 to 3 hours after the initial 2-Gm adult dose, antibacterial levels are present in

both the blood and urine.

## B.I.D./T.I.D. dosage for around-the-clock coverage

Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking

and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

## Also effective in nonobstructed chronic and recurrent u.t.i.

It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often re-

spond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

## Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide

therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

**In nonobstructed cystitis and pyelonephritis due to susceptible organisms**

**Gantanol®**  
(sulfamethoxazole)  
**Basic Therapy**

aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thy-

roid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age** (except adjunctively with pyrimethamine in congenital toxoplasmosis).

*Usual adult dosage:* 2 Gm (4 tabs or teasp.) initially, then 1 Gm b.i.d. or t.i.d. depending on severity of infection.

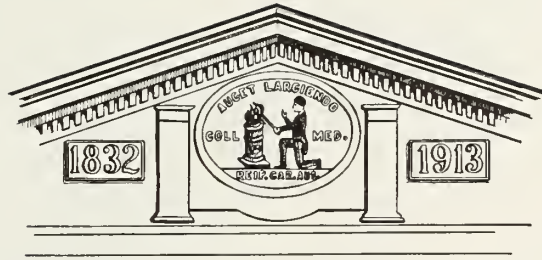
*Usual child's dosage:* 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs b.i.d. Maximum dose should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110





## Medical University of South Carolina

Dr. Curtis P. Artz, chairman of the Department of Surgery at the Medical University of South Carolina, has been presented the highest award of the Southeastern Surgical Congress. Dr. Artz was awarded the Distinguished Service Award during the Congress' recent 41st annual assembly in New Orleans. A widely recognized authority on the management of trauma and burns, Dr. Artz was cited for his outstanding contributions to American surgery.

Dr. John A. Siegling, Charleston orthopedic surgeon, delivered the annual Sherman Lecture recently at the Baylor College of Medicine, Houston, Texas. He also conducted a study session on musculoskeletal pathology.

Dr. Siegling is clinical professor and chairman of the Department of Orthopedic Surgery at the Medical University of South Carolina.

Six infants have undergone the dramatic procedure of frozen heart surgery since its introduction at the Medical University late last fall. Nine-month-old Emmie Susan Belger, the most complicated case treated to date, is now a sprightly miss after her

operation to correct a transposition of the great arteries and a ventricular septal defect. Heading the medical and surgical teams were Dr. Donald A. Riopel, pediatric cardiologist, and Dr. Jack E. Arrants, thoracic surgeon.

A tiny surgical knife has been developed at the Medical University of South Carolina for removing spinal tumors to give relief from mass spasms to partially-paralyzed patients. The technique has received national recognition. Recently an exhibit on the so-called Myelotomy Knife won a citation for outstanding contribution from the Congress of Neurological Surgeons.

Dr. Shokei Yamada, chief of neurosurgery at the Charleston Veterans' Administration Hospital and associate professor of neurosurgery at the Medical University, presented both a paper and exhibit on the new method during the 22nd annual meeting of the neurosurgeons in Denver, Colorado. His discussion was entitled "Longitudinal Myelotomy for Control of Mass Spasms in Paraplegia." Dr. Yamada explained that many paralyzed and partially paralyzed patients have spasms that may throw them out of a bed or wheelchair and cause them to fall down when walking.

## COURSES AND EXAMINATIONS

The 23rd Annual Postgraduate Obstetric-Pediatric Seminar will be held at Pier 66, Fort Lauderdale, Florida, on August 16, 17 and 18, 1973. For more information about the Seminar, write to J. E. Padgett, Jr., M.D., M.P.H., Chief, Bureau of Maternal and Child Care, S. C. State Board of Health,

J. Marion Sims Building, Columbia, S. C. 29201.

THE ANNUAL OTOLARYNGOLOGIC ASSEMBLY OF 1973 will be held October 20 through 26, 1973, in the Eye and Ear Infirmary of the University of Illinois Hos-

pital. The Department of Otolaryngology of the Abraham Lincoln School of Medicine, University of Illinois at the Medical Center, offers a condensed basic and clinical program for practicing otolaryngologists under the direction of Emanuel M. Skolnik, M. D., with Burton J. Soboroff, M. D., as co-chairman. This program is designed to bring to specialists current information in medical and surgical otorhinolaryngology.

Interested otolaryngologists should direct their inquiries to the mailing address: OTOLARYNGOLOGY, P. O. Box 6998, Chicago, Ill. 60680.

A separate, but correlated course, "CONFERENCE ON RADIOLOGY IN OTOLARYNGOLOGY AND OPHTHALMOLOGY" will be held this year on Friday and Saturday, November 23 and 24, under the guidance of Galdino E. Valvassori, M. D. For further information about the radiology conference, write to Professor Valvassori, Radiology Department, Abraham Lincoln School of Medicine, P. O. Box 6998, Chicago, Ill. 60680.

The Department of Otolaryngology, Abraham Lincoln School of Medicine of the University of Illinois and the Eye and Ear Infirmary of the University of Illinois Hospital, will conduct a continuing education course in Laryngology and Bronchoesophagology November 12 to 17, 1973. The course is limited to twenty physicians and will be under the direction of Paul H. Holinger, M. D. It will be held largely at the Eye and Ear Infirmary, 1855 West Taylor Street, Chicago, and will include visits to a number of other Chicago hospitals. Instruction will be provided by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested physicians will please write

# Rondomycin<sup>®</sup>

## (methacycline HCl)

**CONTRAINDICATIONS:** Hypersensitivity to any of the tetracyclines.

**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

**Usage in pregnancy.** (See above **WARNINGS** about use during tooth development.) Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in premature given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS:** Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes, exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

**Renal toxicity:** rise in BUN, apparently dose related (See **WARNINGS**).

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE: Adults**—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days. **SUPPLIED:** 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 12/71



WALLACE PHARMACEUTICALS  
CRANBURY, NEW JERSEY 08512





**When the focus is on bronchitis due to  
susceptible strains of *H. influenzae* and pneumococci\***

**Rondomycin<sup>®</sup> 300** mg.  
**[methacycline HCl]** Capsules

**Delivers from the very first dose:**

**Studies show that after the first dose serum levels rapidly rise above  
minimum *in vitro* inhibitory concentrations**

\*Since many strains are known to be resistant, routine sensitivity testing is recommended.





**With  
vulvovaginal  
candidiasis  
she can't wait  
for relief...**

**A 14-day therapy\*  
that provides prompt relief**

**Composition:** SPOROSTACIN Cream contains chlordantoin 1% and benzalkonium chloride 0.05%, compounded with glyceryl monostearate, phosphoric acid, cetyl alcohol 2%, stearic acid, peanut oil, ionol, catanac, glycerin, benzoic acid and water.

**\*Indication**

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:

"Probably" effective: For the treatment of vulvovaginal candidiasis.

Final classification of the less-than-effective indication requires further investigation.



**with  
Sporostacin  
Cream,  
in many cases,  
she doesn't  
have to.**

# **Sporostacin<sup>Trademark</sup> Cream** (chlordantoin 1% and benzalkonium chloride 0.05%)

**Contraindications:** None known.

**Precautions:** Cases of sensitization and irritation have been reported. When noted the drug should be discontinued.

**Dosage:** One applicatorful intravaginally twice daily for 14 days. Course of therapy may be repeated if necessary.

**Supplied:** SPOROSTACIN Cream is available in 3.35 oz. (95g) tubes with the ORTHO<sup>†</sup> Measured-Dose Applicator.



Ortho Pharmaceutical Corporation, Raritan, New Jersey 08869

directly to the Department of Otolaryngology, Eye and Ear Infirmary, 1855 West Taylor Street, Chicago, Illinois 60612.

The American Board of Family Practice announces that it will give its next two-day written certification examination on October 20-21, 1973 in various centers throughout the United States. Information regarding the examination can be obtained by writing: Nicholas J. Pisacano, M.D., Secretary American Board of Family Practice, Inc.

University of Kentucky Medical Center  
Annex #2, Room 229  
Lexington, Kentucky 40506

**PLEASE NOTE:** It is necessary for each physician desiring to take the examination to file a completed application with the Board office. **Deadline for receipt of applications in the Board office is August 1, 1973.**



## EXECUTIVE COMMITTEE S. C. STATE BOARD OF HEALTH 1972 REPORT

In order to facilitate the solving of the multitude of problems facing an agency which is dedicated to improving the health needs of the people of the state, the Executive Committee has divided itself into subcommittees which meet regularly with staff of the State Board of Health, and as a result of these meetings the Committee approves and sets policies which guide and direct the activities of the agency. The Executive Committee adopted these goals and objectives for the State Board of Health:

1. Establishment of public health planning and service districts with state support for district health planning councils and strengthening public health district staffs.
2. Provide family planning services statewide.
3. Improve health through better environment.
4. Promote good health practices through health education and information, and health screening and early identification.
5. Maintain and improve health standards for institutional care, and drug control.

Work was continued toward building strong district staffs throughout the entire state that would work toward insuring quality health services to all people in the communities.

To meet the health needs of the people will require not only all the energy and strength of this agency, but will require responsible

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## DEATH

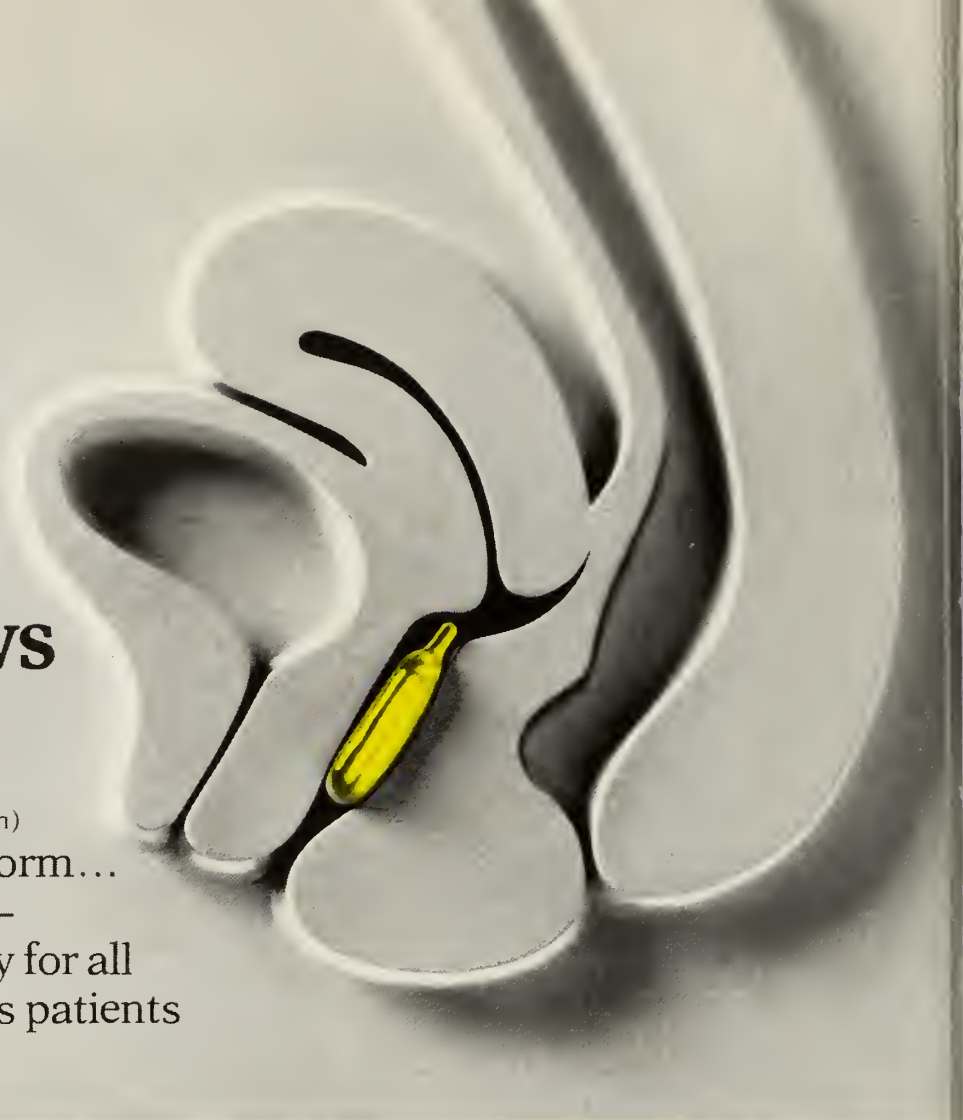
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### DR. R. W. LAROCHE

Dr. Ripon Wilson LaRoche, 58, died April 3 in his home in Camden after a long illness. A 1943 graduate of the Medical University of South Carolina, Dr. LaRoche served as a medical officer during World War II. As a brigadier general in the U. S. Army, he commanded the 3297th Reserve Hospital of the Army Reserve Command, 3rd U. S. Army, headquartered in Atlanta, where he was awarded the Legion of Merit and Army Reserve Achievement award. He has practiced in Camden since 1950. Dr. LaRoche was past president of the Kershaw County Medical Society and chief of staff of the Kershaw County Memorial Hospital.

# Now form follows function

Only **Candeptin** (candidin)  
gives you this unique form...  
a soft gelatin capsule—  
highly effective therapy for all  
your vaginal moniliasis patients



**CANDEPTIN® (candidin) VAGELETTES™**  
**Vaginal Capsules**...a unique dosage form...  
anatomically and therapeutically designed to extend  
flexibility in the treatment of vaginal moniliasis.

#### **Virtually unlimited application**

CANDEPTIN VAGELETTES Vaginal Capsules provide  
the specific high potency antimicrobial agent,  
candidin, in a soft gelatin capsule—the shape  
designed with your patient in mind. It permits easy  
manual insertion without the need for an applicator  
or inserter...of particular value for the pregnant  
patient...for *intravaginal use*. By cutting off the tip  
of the narrow soft end, the contents can be extruded  
through an intact hymen for *intravaginal use*. And  
it is readily adaptable to *topical application* for  
labial involvement, and/or *intravaginal use* to treat  
mucosal infection.

**CANDEPTIN (candidin) provides:**  
**Rapid results**

Prompt, symptomatic relief—itching, burning,  
and discharge subside in 48-72 hours!  
Soothing, miscible ointment permits complete  
contact with affected tissue.  
Usually cures in a single 14-day course of therapy<sup>2,3,4</sup>

#### **Safe**

Exact dosage assured<sup>2,3</sup>  
No side effects, clinical reports of irritation or  
sensitization extremely rare.

#### **Convenience**

Easy to use intravaginally and/or topically  
for labial involvement.  
Encourages patient acceptance and cooperation.  
Therapy is easy to start in your office.

#### **Clinical proof of potency**

CANDEPTIN (candidin) is significantly more potent  
*in vitro* than nystatin<sup>5</sup> CANDEPTIN Vaginal Ointment  
and Tablets have a clinical record of cure rates  
of 90% and more in pregnant and non-pregnant  
patients!<sup>4,6</sup> In recent studies on CANDEPTIN  
VAGELETTES Vaginal Capsules, involving both gravid  
and non-gravid patients, a 100% culture-confirmed  
cure rate was achieved with a single 14-day  
course of therapy.<sup>2,3</sup>

**Unique**  
**CANDEPTIN® (candidin)**  
**VAGELETTES™ Vaginal Capsules**



**Description:** CANDEPTIN (candidin) Vaginal Ointment contains a dispersion of candidin powder equivalent to 0.6 mg. per gm. or 0.06% Candidin activity in U.S.P. petrolatum. 3 mg. of Candidin is contained in 5 gm. of ointment or one applicatorful. CANDEPTIN Vaginal Tablets contain Candidin powder equivalent to 3 mg. (0.3%) Candidin activity dispersed in starch, lactose and magnesium stearate. CANDEPTIN VAGELETES Vaginal Capsules contain 3 mg. of Candidin activity dispersed in 5 gm. U.S.P. petrolatum.

**Action:** CANDEPTIN Vaginal Ointment, Vaginal Tablets, and VAGELETES Vaginal Capsules possess anti-moist activity.

**Indications:** Vaginitis due to *Candida albicans* and other *Candida* species.

**Contraindications:** Contraindicated for patients known to be sensitive to any of its components. During pregnancy manual Tablet or VAGELETES Capsule insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.

**Caution:** During treatment it is recommended that the patient refrain from sexual intercourse or the husband wear a condom to avoid re-infection.

**Adverse Reaction:** Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment, Vaginal Tablets or VAGELETES Vaginal Capsules have been extremely rare.

**Dosage:** One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet or one VAGELETES Vaginal Capsule is inserted high in the vagina twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.

**Available Dosage Forms:** CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil with inserter—enough for a full course of treatment. CANDEPTIN VAGELETES Vaginal Capsules are packaged in boxes of 14 (14-day regimen requires 2 boxes.)

Store under refrigeration to insure full potency.

Federal law prohibits dispensing without prescription.

**References:** 1. Olsen, J.R. *Journal-Lancet* 85:287 (July) 1965. 2. Giorlando, S.W. *Ob/Gyn Dig.* 13:32 (Sept.) 1971. 3. Decker, A. Case Reports on File, Medical Department, Julius Schmid. 4. Giorlando, S.W., Torres, J.F., and Muscillo, G.: *Am. J. Obst. & Gynec.* 90:370 (Oct. 1) 1964. 5. Lechevalier, H. *Antibiotics Annual 1959-1960*. New York, Antibiotica Inc., 1960, pp. 614-618. 6. Friedel, H.J.: *Maryland M.J.*, 15:36 (Feb.) 1966.



Julius Schmid Pharmaceuticals  
423 West 55th Street  
New York, New York 10019

## CANDEPTIN® (candidin)

### Vaginal Tablets

### Vaginal Ointment

### and VAGELETES™ Vaginal Capsules

community action by professional providers, and consumers. The State Board of Health has always attempted to keep the medical profession informed of its program activities, and we have received much strength and support which the medical profession has accorded us. As changing patterns for the delivery of health services emerge over the coming years, such communication and support will be needed even more. As a means for improving the delivery of health services, the study of health maintenance organizations was continued. In addition, studies were begun in the regionalization of health services in such areas as intensive care of the newborn and emergency health care.

During the past year the State Board of Health was involved in a considerable amount of legal activities in which the responsibilities of the State Board of Health were challenged. We are happy to report that the Supreme Court upheld the responsibility of this agency to safeguard the public's health.

With the ever-expanding role of government, lines of official responsibilities often become confused. The State Board of Health must frequently define and redefine its role; nevertheless, progress continues to be made in achieving a better working relationship between the State Board of Health and other state agencies.

## COMPREHENSIVE HEALTH PLANNING

During 1972 the director of the State Commission on Alcoholism, a representative from the Regional Medical Program and the Veterans Administration, an optometrist, a podiatrist, and five consumers were added to the Advisory Council for Comprehensive Health Planning, which met four times.

Programs for the 100-member statewide Health Forum are designed for public airing of common interests in health affairs, and planning toward finding solutions to problems in the delivery of health care, then recommending courses of action to the Advisory Council. This group met twice.

Since the district comprehensive health planning agencies are considered the backbone of the comprehensive health planning effort, special emphasis has been given to

encourage and assist these agencies in becoming more effective in their influence for improving all phases of health in their communities. As a part of this effort, a seminar on health data resources for health planning was held.

Governor West assigned to the Advisory Council for Comprehensive Health Planning the responsibility to function as the state advisory board for the U. S. Price Commission. Its mission in this regard is to review and make recommendations to the Internal Revenue Service on applications from institutional providers (hospitals, nursing homes, etc.) of health care for annualized price increases above 6%.

Under a contract with the National Institutes of Health, the State Board of Health intensified its efforts to assist veterans who are trained and experienced in health care to pursue civilian health careers. The program is known nationally as Project MEDHIC (Military Experience Directed Into Health Careers). During the year the local program has been instrumental in making 83 placements of such personnel.

During the year the federal Health Services and Mental Health Administration office required an exhaustive survey of scarcity areas in the state. Conducted nationwide, the massive survey, which involved local judgements as well as data compilation, will be used to improve national programming for health implementation.

Significantly active were investigations and preparation of study reports by task forces on health education, environmental health, and drug costs. Membership on these task forces is statewide, and hopefully implementation of their recommendations by appropriate organizations and agencies will have significant impact on the health status of South Carolinians.

#### MATERNAL AND CHILD HEALTH

Programs in the maternal and child health field which have been added are hemoglobin electrophoresis (with primary emphasis on sickle cell disease), immunization assistance, eradication of intestinal parasites, and the early and periodic screening with diagnosis and treatment of AFDC chil-

dren below age 12. Each of these programs has provided for increased coordination of care to better serve the whole person and family. During fiscal year 1972, the number of persons who received services under the child health maintenance program increased by 18 per cent.

During the year 54,757 doses of measles/rubella vaccine, 4,787 doses of measles vaccine, 992 doses of polio vaccine, 1,171 doses of DPT, and 1,287 doses of DT were given. The state now ranks sixth nationally in total doses of rubella vaccine administered to 1-to-4-year-olds in public programs. A new school immunization law has been passed which requires a child to be protected against diphtheria, pertussis, tetanus, polio, measles, and rubella prior to entering kindergarten or the first grade.

Implementation of the statewide districting plan for family planning services has proceeded on schedule with nine districts operational in 1972, leaving only three districts still to be incorporated into the statewide plan. The number of persons receiving family planning services was 32,554, an increase of 8,311 over those served during fiscal year 1971, with the per cent of need met increasing from 15.7 per cent to 21.0 per cent.

Prenatal care was available in 39 counties where 5,380 patients received comprehensive care, an increase of 11 per cent over those served during the previous year. Several additional counties implemented the provision of separate prenatal clinics for the adolescent patient. Provision for hospital delivery and transportation services continue to represent the major obstacles to providing comprehensive prenatal care.

A state-level school health nurse consultant has been added to the staff, and plans call for all school districts to use the standard health report form during the 1972-73 school year.

The rising cost of hospital care, coupled with a reduction in funds for inpatient care, caused a curtailment of hospitalization of crippled children for three months during 1972. This curtailment effected a reduction in hospital days authorized from 11,483 to





# Spasm reactor?

# Donnatal!

	each tablet, capsule or 5 cc. teaspoonful of elixir (23% alcohol)	each Donnatal No. 2	each Extentab
hyoscyamine sulfate	0.1037 mg	0.1037 mg.	0.3111 mg.
atropine sulfate	0.0194 mg.	0.0194 mg.	0.0582 mg.
hyoscine hydrobromide	0.0065 mg	0.0065 mg	0.0195 mg.
phenobarbital	( $\frac{1}{4}$ gr.) 16.2 mg	( $\frac{1}{2}$ gr.) 32.4 mg.	( $\frac{3}{4}$ gr.) 48.6 mg
(warning: may be habit forming)			

**Brief summary.** Adverse Reactions: Blurring of vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur on higher dosage levels, rarely on usual dosage. Contraindications: Glaucoma; renal or hepatic disease; obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); or hypersensitivity to any of the ingredients.

**A·H·ROBINS** A H Robins Company, Richmond Virginia 23220



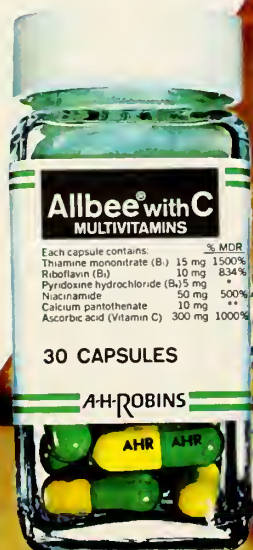
# 2 ways to provide a daily therapeutic supply of Vitamin C: 15 baked potatoes (skins and all!) or one capsule of Allbee® with C

About 20 mg. Vitamin C in one baked potato (2½" diameter).

To many people the evening meal just isn't complete without potatoes. But your patient would have to eat 15 of them (skins and all!) to get as much Vitamin C as is contained in just one Allbee with C capsule taken daily. A bottle of 30 (month's therapeutic dose) supplies as much ascorbic acid as 450 potatoes, plus full therapeutic amounts of the B-complex vitamins. For the patient who is counting calories, Allbee with C is small potatoes because the B's and C are water soluble. Consider the number of calories in 15 potatoes, not to mention the mountain of butter and sour cream. Allbee with C is available at pharmacies in the handy bottle of 30 and the economy size of 100 on your prescription or recommendation.

A. H. Robins Company,  
Richmond, Va. 23220

**A-H-ROBINS**



6,040, but outpatient services, provision of appliances, and Convalescent Center care were not curtailed.

Emphasis is being shifted from corrective dental services and toward preventive services. Public educational activities, plaque control, and water system fluoridation will constitute the major directions in the coming year.

Services through the Child Evaluation Clinic are being rendered more effectively since a full staff has been secured and since the employment of a full-time nurse responsible for following-up persons served and assisting them in securing assistance from local resources, as indicated.

### HOME HEALTH SERVICES

During the year 142,886 home health service visits were made to 7,742 patients in the state, with 83.3 per cent of these visits being skilled nursing, 13.0 per cent home health aide visits, 3.1 per cent physical therapy, 0.2 per cent medical social services, 0.1 per cent speech therapy, 0.2 per cent occupational therapy, and 0.1 per cent visits by a registered dietitian.

Of the physicians in South Carolina likely to refer patients for home health services, 67.5 per cent are prescribing home care, with 46 per cent of the referrals coming from the general hospital and 35.6 per cent originating in the physician's office. Patients over 65 years of age accounted for 63.4 per cent of those served, and each patient received an average of 18.5 visits lasting an average of 90 minutes each. Of the persons discharged from home health services, 26 per cent were able to function independently, and care was no longer needed.

### CANCER CONTROL

Through the ten state-aid cancer clinics 5,251 new cases were added to the Cancer Registry (2,369 males and 2,882 females), with 51.5 per cent of all cases reported being localized in stage at time of diagnosis. Nearly 700 cancer clinic patients were hospitalized for diagnosis and/or treatment (average stay in hospital 10 days at average

cost per hospital day at \$65.18), and 5,964 patients made 17,644 clinic visits, receiving nearly 24,000 outpatient diagnostic services and treatments. The follow-up rate has continued to improve, and we will continuously work toward the goal of 100 per cent of known cancer cases under medical supervision.

A cancer detection clinic has been functioning in Kershaw County, and further clinics were stated in Chesterfield, Dillon, and Marion Counties. With limited funding the Pap smear clinics were continued and extended to six counties in the Pee Dee District, and 3,336 women received cervical cytology, with 32 smears being suspicious and six being ultimately diagnosed as cancer. We hope to extend this type of screening to every health department.

### HEART DISEASE CONTROL

As no funds are available for hospitalization of heart clinic patients, the nine heart clinics function primarily as an evaluation, diagnostic, and follow-up agency, with patients needing catheterization, surgery, etc., being referred to the Medical University Hospital Heart Clinic. Heart clinic cases having cardiac catheterization numbered 533, angiograms 531, coronary arteriograms 186, and cardiac surgery 235. A total of 2,548 patients made 3,092 clinic visits.

The Phonocardiogram was used for heart disease screening in three counties with a total of 1,856 children screened, three of whom were found to have previously unknown heart disease.

### TB CONTROL

New active cases of tuberculosis numbered 693, being a 7.1 per cent increase over 1971; and the tuberculosis case rate for 1972 was 26.8 per 100,000 population compared to 25.0 for 1971. As of June 30, 1972, the total register included 3,410 cases; and of these, 195 were hospitalized, 76 were in other institutions, and 3,139 were at home. Of those at home, 422 had active disease, with 93.1 per cent receiving chemotherapy, and 84.7 per cent of those for whom it was



recommended having a bacteriologic examination within the last six months.

At the present we have no explanation for the increase from 647 new active cases in 1971 to 693 new active cases in 1972. Further analysis of data indicates that this increase is largely accounted for by more frequent identification of primary tuberculosis through improved case-finding among contacts of newly diagnosed or re-activated cases of tuberculosis.

State Park Health Center provided a total of 48,246 patient days of care and admitted 623 patients. Eight patients under 14 years of age were admitted for a total of 1,525 days. Surgical procedures were performed on 114 patients, and 62 deaths occurred during the last calendar year. The average daily census is 175, and the average length of stay per patient is 109.88 days, a reduction by 116 days in the four years since 1968 when the average hospitalization per patient was 225 days.

#### VD CONTROL

For the first time since fiscal year 1966 there was an increase in reported infectious syphilis, with 512 cases reported compared to 334 in fiscal year 1971. The upward trend of reported gonorrhea cases continued with the highest increase on record—up to 56 per cent over fiscal year 1971. Of special interest is the fact that physicians in private practice reported a 97 per cent increase in cases over a year ago. A good beginning was made in planning and implementing a statewide gonorrhea screening program made possible by a supplemental grant from the U. S. Public Health Service which provides for increasing the case-finding staff to provide for gonorrhea culturing of high-risk females of childbearing age.

VD health education workshops were held for teachers in 10 counties. Five schools of nursing in the state include VD education in their curricula, as do at least 131 public schools and 20 parochial schools in grades 7 through 12.

**Gantrisin® (sulfisoxazole) Roche® provides your patients with many important advantages:**

- high urinary levels
- generally good tolerance
- high solubility at average urinary pH
- rapid absorption
- rapid renal clearance
- high plasma concentrations
- economy (average cost of therapy: less than 6½¢ per tablet)

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Nonobstructed urinary tract infection (mainly cystitis, pyelitis, pyelonephritis) due to susceptible organisms. **Important Note:** *In vitro* sensitivity tests not always reliable; must be coordinated with bacteriological and clinical response. Add aminobenzoic acid to follow-up culture media. Increasing frequency of resistant organisms limits usefulness of antibacterial agents, especially in chronic and recurrent urinary infections. Maximum safe total sulfonamide blood level, 20 mg/100 ml; measure levels as variations may occur.

**Contraindications:** Hypersensitivity to sulfonamides infants less than 2 months of age; pregnancy at term and during the nursing period.

**Warnings:** Safety in pregnancy not established. Do not use for group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. CBC and urinalysis with careful microscopic examination should be performed frequently.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy or bronchial asthma. Hemolysis, frequently dose related, may occur in glucose-6-phosphate dehydrogenase-deficient patients. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** **Blood dyscrasias:** Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; **Allergic reactions:** Erythema multiforme (Stevens-Johnson syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; **Gastrointestinal reactions:** Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; **C.N.S. reactions:** Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; **Miscellaneous reactions:** Drug fever, chills and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Supplied:** Tablets containing 0.5 Gm sulfisoxazole.





n acute, recurrent or chronic nonobstructed cystitis

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## 1.

### High urinary drug levels

Gantrisin quickly reaches peak antibacterial concentrations in the urine—usually in 2 to 3 hours. With the recommended dosage regimen, Gantrisin maintains these high urinary levels throughout therapy to combat such susceptible organisms as *E. coli*, *Klebsiella-Aerobacter*, *Staphylococcus aureus*, *Proteus mirabilis* and, less frequently, *Proteus vulgaris*.

## 2.

### Generally good tolerance

Because of Gantrisin's high solubility and rapid excretion, therapy is relatively free of adverse reactions serious enough to require discontinuance of the drug (3.1% of 1002 patients in a recent study\*). Even minor reactions are comparatively infrequent but may include nausea, headache and vomiting. For other possible undesirable reactions, and precautions, please see summary of prescribing information on opposite page.

\*Koch-Weser, J., et al.: Arch. Intern. Med., 128:399, 1971.

For nonobstructed cystitis

begin with  
**Gantrisin<sup>®</sup>**  
sulfisoxazole/Roche<sup>®</sup>



Usual adult dosage:

4 to 8 tablets *stat*  
2 to 4 tablets *q.i.d.*

ROCHE

## RABIES

After several years of being rabies-free in South Carolina, 20 rabid bats were identified in 1971 and 12 rabid bats in 1972. In addition, a rabid raccoon was identified from Beaufort County in October, 1972.

Dr. William B. Gamble returned from the School of Public Health of the University of North Carolina as the state epidemiologist and has been of tremendous assistance in the study of diseases and epidemiological management principles as applied to programs.

## OCCUPATIONAL HEALTH

The State Board of Health sponsored a seminar in occupational health for industrial nurses and began in conjunction with the Department of Labor a routine in-plant inspection program, and continued consultations, surveys and studies for a diverse number of industries in the state.

## EMERGENCY HEALTH SERVICES

Task forces were set up under a project coordinator to develop a comprehensive emergency medical service systems plan covering training, communications, ambulance services, and emergency rooms, with June 30, 1973, the target date for completion. Meanwhile, courses conducted by the State Board of Health in cooperation with the S. C. Hospital Association resulted in 590 emergency medical technicians being trained and 20 instructors and 15 assistants certified. Twelve county ambulance and emergency systems were upgraded. When the Military Assistance to Safety in Traffic Program is approved on a national basis, South Carolina has an already approved plan, and we stand ready to implement helicopter rescue services throughout the state.

## RADIOLOGICAL HEALTH

Four nuclear facility sites have been sampled and analyzed regularly for the Environmental Protection Agency, and in-plant and on-site sampling augmented routine environmental surveillance to fulfill the Atomic Energy Commission contract. A total of 7,600 radiological laboratory analyses were performed.

Seven additional hospitals were licensed for use of radioactive material, 270 licensing actions were initiated, and X-ray machine registration increased by 100.

## NARCOTIC AND DRUG CONTROL

Over 4,300 legal persons or entities entitled to manufacture, distribute, dispense, or possess controlled substances have been registered and 700 of them inspected, with approximately 35 persons being charged with violations of the state Controlled Substances Act, chiefly for forgery of prescriptions to illegally obtain controlled substances from pharmacies registered under the Act.

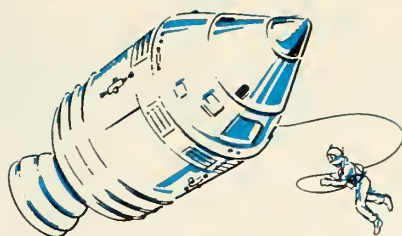
As a result of the tightening up of laws and regulations governing controlled substances, the state has had a rash of prescription forgeries and break-ins of pharmacies, physicians' offices, and manufacturers. Over 200 pharmacies and 20 physicians' offices have been burglarized during 1972.

A comprehensive act was passed during the 1972 legislative session that brings the state into relative uniformity with the current federal Food, Drug and Cosmetic Act, and it is thought that inspectors will be fully trained to begin effective enforcement during 1973.

## HEALTH FACILITIES

Approximately \$3,242,000 in Hill-Burton grant funds were encumbered in eight construction or modernization projects, and the Hill-Burton Loan with Interest Subsidy Program made available approximately \$15 million during 1971-72 for encumbrance in projects. Receiving federal funds were 22 active projects in all categories, including three public health centers and four heterogeneous projects under the Appalachian Program. During fiscal year 1972 1,218 hospital beds and 233 nursing home beds were constructed.

Franchising activities included the processing of 104 requests for certificates of need, resulting in 82 certificates issued, six projects exempted, two certificates denied, and 14 requests pending.



Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . a prophylaxis to prevent kidney or bladder calculi.

# Uro-Phosphate®

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Each tablet contains: METHENAMINE, 300 mg.; SODIUM ACID PHOSPHATE, 500 mg.

Uro-Phosphate gives comfort and protection when inactivity causes discomfort in the urinary function. It keeps calcium in solution, preventing calculi; it maintains clear, acid, sterile urine; it encourages

complete voiding and lessens frequency when residual urine is present.

Uro-Phosphate contains sodium acid phosphate, a natural urinary acidifier. This component is fortified with methenamine which is inert until it reaches the acid urinary bladder. In this environment it releases a mild antiseptic keeping the urine sterile.

Uro-Phosphate is safe for continuous use. There are no contra-indications other than acidosis. It can be given in sufficient amount to keep the urine clear, acid and sterile. A heavy sugar coating protects its potency.

## Dosage:

For protection of the inactive patient 1 or 2 tablets every 4 to 6 hours is usually sufficient to keep the urine clear, acid and sterile.

2 tablets on retiring will keep residual urine acid and sterile, contributing to comfort and rest.

A clinical supply will be sent to physicians and hospitals on request.



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or is contraindicated*

### **MUDRANE GG**

*During pregnancy or when K.I. is  
contraindicated or not tolerated*

### **MUDRANE GG-2**

*A counterpart for Mudrane-2*

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or where liquids are preferred*

*Clinical specimens  
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Receiving an annual license were 92 hospitals and general institutional infirmaries, 86 nursing care facilities and institutional nursing infirmaries, and 57 intermediate care facilities. Licensure activities were broadened to include 87 hearing aid dealers and fitters, and 18 temporary permits were issued.

### ENVIRONMENTAL SANITATION

During 1972 rules and regulations for camps, jails and penal institutions, and hotels and motels were revised; and rules and regulations were adopted relating to the manufacture, processing, storage, and transportation of ice for human consumption.

A review of all septic tank manufacturers' waste disposal products (tanks, drain tile, and distribution boxes) was initiated to determine if the products are structurally sound and meet the requirements of the appropriate rules and regulations.

Housing studies were initiated to determine reasonable housing health standards necessary to provide appropriate regulations for enforcement. Conferences and consultations have been held with personnel from the Department of Housing and Urban Development, Farmers' Home Administration, South Carolina Housing Authority, and numerous other profit and non-profit organizations.

One of the major problems is preventing the spread of foodborne disease through food service establishments, and the backbone of the attack on this problem is the routine inspection of these establishments. Over 18,000 inspections and 5,000 conferences reflect continuing effort by the 81 food sanitarians to reduce the statewide average demerit score to Grade "A" level by 1980. To also improve long-range sanitation levels, 472 food service establishment plans were reviewed for proper construction.

Since 1968 emphasis has gradually been shifted from enforcement to education. Exemplifying this change in approach is the motto, "Legislation without education does not achieve adequate control." A total of 7,165 food service employees were trained by

educational television and other conventional audio-visual combinations.

The newly organized retail market program is making significant strides in sanitary improvement in supermarkets. A statewide survey has been conducted to establish baseline information on operational and informational procedure. Plans for 73 markets were reviewed to insure proper equipment installation.

The 1972 legislature authorized the State Department of Agriculture, through the passage of the Food and Cosmetic Act, to regulate food processing plants.

A total of 3,600 inspections and visits to dairy farms, 150 inspections on pasteurization plants, and 54 inspections of frozen dairy food plants were made. As a result of laboratory analyses, it was determined that 8,640 gallons of raw milk were not fit for pasteurization, and it was dumped as waste. The majority of the milk dumped was due to the presence of antibiotics.

Inspections were completed on 150 soft drink bottling plants, and proposed revisions to the rules and regulations governing bottling plants have been prepared and are now in the process of being reviewed by industry personnel.

Surveys were conducted to evaluate insect and rodent problems, to make recommendations, and to determine the effectiveness of control measures with mosquitoes, flies, and ticks. Rodents and bats required considerable attention.

Rules and regulations governing the sanitation of caged layer poultry houses were promulgated in conjunction with the S. C. Poultry Association to assist in controlling fly and rodent populations.

Inspections were made of 90 discontinued garbage disposal sites for insects and rodents. Treatment was applied as needed, with some requiring several visits.

### ENVIRONMENTAL ENGINEERING

Rules and regulations relating to bathing beaches were adopted. Weekly inspections were made during the summer at 205 supervised natural bathing areas and more than 1,000 public swimming pools. A total of



10,318 bacteriological samples were taken with 86 per cent of the natural area samples being satisfactory as were 90 per cent of the pool samples. Construction permits for 195 swimming pools were issued, and several training seminars were conducted for operators.

Wastewater construction permits were issued to 218 trailer parks, subdivisions, and apartment complexes, and 29 schools. Construction permits were issued for new or expanded water facilities for 38 apartment complexes, 199 subdivisions, 70 schools, 1 motel complex, 102 district or municipal, 43 mobile home parks, 17 government projects, 12 hospital or nursing homes, and 11 industrial installations. Collected and analyzed for bacterial contamination were 27,929 water samples, and 1,993 samples were collected for chemical quality.

The shellfish sanitation program maintained a 98.1 per cent rating by the Food and Drug Administration. Additional waste treatment facilities have made possible the opening of some previously closed areas for shellfish gathering.

Rules and regulations regarding sanitary landfills went into effect July 1, 1972. There were 612 meetings with county officials, engineering firms, and planning council commissioners; 104 sites were inspected; 32 landfill permits were issued; and 109 training sessions, 19 public education programs, and 3 seminars were held. Landfill inspections numbered 316, collection systems inspections numbered 86, and 61 open dumps were closed. Permitted landfills now serve 1.5 million of the state's 2.5 million people.

### LABORATORY

The 800,000 examinations performed by the laboratory in fiscal year 1971-72 represent an increase of 16.5 per cent over the number performed the previous fiscal year and an increase of 50 per cent over the 538,112 examinations performed in fiscal year 1966-67. This growth has been consistent for more than 15 years. In addition, during the last several years the types of examinations performed in this laboratory have become more sophisticated, requiring

not only expensive equipment but more highly trained personnel. Using a method devised by the Center for Disease Control, which considers the above factors, we find that the workload of the laboratory increased 82 per cent from fiscal year 1966-67 to the present fiscal year.

The laboratory participates in proficiency testing programs of the Center for Disease Control to maintain a high level of diagnostic acuity and is now enrolled in these program areas: syphilis serology, non-syphilis serology, bacteriology, mycology, parasitology, virology, toxicology, hemoglobin electrophoresis, phenylketonuria, and heavy metal analyses. The State Park Health Center Laboratory participates in the Quality Evaluation Program of the College of American Pathologists.

The Syphilis Serology Section has assumed the responsibility of the Center for Disease Control to administer the syphilis serology proficiency testing program for all South Carolina laboratories participating under the federal law, Clinical Laboratory Act of 1967. The Mycology and Parasitology Sections are reference laboratories in the program for the evaluation of other state laboratories conducted by the Center for Disease Control.

In turn, the Laboratory Improvement Section operates a proficiency program for all South Carolina laboratories in the microbiological specialties of bacteriology, parasitology, mycology, and syphilis serology. Implementation of the Laboratory Licensure Act passed by the 1972 General Assembly will require considerably more expansion in this area.

The laboratory published a second edition of the **Manual of the Bureau of Laboratories** which is designed to inform physicians, health departments, and laboratories which utilize the State Board of Health Laboratory of the tests available, the type of specimen to submit for testing, the nature of the examination, and information regarding the interpretation of the results. The manual has been distributed to all physicians, county health departments, and private and hospital laboratories.



In 1968 the use of the cervical smear examination for the detection of gonorrhea in the asymptomatic female was discouraged. In 1969 the use of Thayer-Martin medium for the isolation of *N. gonorrhoeae* was instituted, and the utilization of the culture method for gonorrhea detection was encouraged. During that year 590 cultures were examined; during the last fiscal year 17,011 culture examinations for gonorrhea were performed.

In 1963 the laboratory instituted a newly developed Fluorescent Treponemal Antibody Test for syphilis. This examination, although expensive, is useful in the differentiation of syphilis from those diseases which may cause a biological false positive reaction in the routine screening test. This year we instituted two more Fluorescent Treponemal Antibody Tests. The FTA-ABS (IgM) is used to diagnose congenital syphilis. The IgM antibody does not cross the placental barrier and is only present when the infant is infected. The FTA-CSF is an improved method of utilizing the Fluorescent Antibody technique on cerebrospinal fluid. This test has been a significant step forward in the diagnosis of neurosyphilis.

Serological tests for toxoplasmosis have increased 186 per cent over last fiscal year, probably due to several articles appearing in lay journals associating toxoplasmosis with raw meat ingestion and cat excrement.

Fungal serology increased 72 per cent over last year as more physicians became aware of this useful diagnostic tool.

When the test for rubella was instituted in 1968, the laboratory performed 531 examinations for this disease; during the past

fiscal year 26,529 examinations were performed for rubella.

Hemoglobin electrophoresis for the detection of sickle cell anemia was instituted by the State Board of Health on July 1, 1972. During the past six months of 1972 approximately 7,000 specimens were examined, and 14 per cent of the patients were found to have sickle cell trait, 0.2 per cent had sickle cell anemia, and 3 per cent had other hemoglobinopathies.

The Water Bacteriology Section performed over 54,000 bacterial examinations of drinking and recreational waters, an increase of 20 per cent over the previous fiscal year. This growth in workload is expected to increase at a more rapid rate next year due to new requirements of the federal Environmental Protection Agency. We are now performing 19 separate chemical analyses routinely on each sample supplied from the public water systems in the state.

Since a practical method of determining blood lead levels has been developed, this procedure is now being performed in the laboratory.

A drug screening service for the abused drugs was established to serve several state health and rehabilitation agencies. Greater expansion in this area is anticipated during the next year as more physicians come in contact with the problem of abused drugs.

#### SEXUAL STERILIZATIONS

Requests by the Department of Mental Health and the Department of Mental Retardation for the sexual sterilization of 12 persons were approved.

John B. Martin, Jr., M. D.  
Chairman

## NOTES ON EMERGENCY MEDICAL SERVICES IN SOUTH CAROLINA

Medical care is assuming the Number One spot in the nation and in South Carolina with outpourings of billions of dollars, bills in Congress and energy by the public. Governor West suggested spending \$3.25 million on Emergency Medical Services. Physician input is in order and our response needs to be brought before the profession.

The Emergency Medical Services Committee of the South Carolina Medical Association met jointly with the American College of Surgeons Committee on Trauma last February and listed the following priorities in spending this money:

1. Planned utilization for funds. Consider not limiting the spending of the \$3.25 million to one year.

2. Develop local funding mechanisms. Any projects that are started by this appropriation should be sustained by local funding so they can survive.

3. Regionalization. Set up governmental systems making emergency medical services financially sound. For example, an indigent patient sent from one county to another county with a well equipped emergency room and trauma division should have his medical care financed through some regional system.

4. Training of emergency medical personnel and provisions for communications equipment need further firming up by legislation. For training of technicians we need to extend this to procedures such as endotracheal intubation, administration of intravenous fluids, et cetera, and we need to have legislative approval. For communication, we need to have two radio bands set aside for us.

5. Communications. A further study of local and statewide communications sys-

tems is needed. Communications between the ambulance in the field and hospitals is fundamental.

6. The principle of helicopter transportation was endorsed on condition that it could be financially feasible. It will probably be necessary to combine emergency medical services with law enforcement duties to make this economically feasible.

The ACS Committee on Trauma made these recommendations to the Governor's Health Council:

1. It is highly recommended that the Governor's Health Council establish a commission or sub-committee of the Council on Emergency Medical Services. The membership of this commission or council will be similar to that now comprising the State Board of Health Advisory Council on Emergency Medical Services, but not necessarily consisting of the same persons.

2. It is recommended that, within each planning district, a similar council be established that is responsive to the above sub-committee or commission. The membership of this council should also consist of all persons concerned with the delivery of emergency medical services in the regional area.

3. The sub-committee of the Governor's Health Council would, by contract, arrange for administrative control and activities with a new or existing agency, such as the Regional Medical Program or the South Carolina Medical Association. This contractor would be responsible for the administrative duties concerned with contracts and grants to the different health planning areas submitted through the local advisory councils, review and preparation for submission of these contracts and grant

proposals to the commission or sub-committee of the Governor's Health Council, and administrative responsibility for the performance of these grants or contracts.

4. The commission or sub-committee would utilize the present work of the Task Force for the development of a statewide emergency medical services plan formulated by the Advisory Council for Emergency Medical Services of the State Board of Health. Further funding for this Task Force would be made available by contract arrangement.

5. The prime responsibility of the sub-committee would be to evaluate the statewide plan, stimulate and review applications for grants and contracts from the various health planning agencies, and insure the best and most economical use of the funds allocated by the Governor subject to legislative approval. In this context it was also strongly recommended that the fund not have a limitation upon the time within which they can be expended, but that the principal means of expenditure should

be the improvement of emergency medical services and the economical utilization of these funds.

6. The commission would have no regulatory powers, but would have representation from the State Board of Health, within which all regulatory powers for emergency medical services would reside.

We physicians will be functioning in whatever system is set up by our state. We need immediate participation in the active planning now in progress by the state. We need participation at all levels such as our county and state societies, the Regional Comprehensive Councils and other important committees of the government.

The above recommendations and priorities are being submitted to the Council of The South Carolina Medical Association with the suggestion that they be forwarded to Governor West and Mr. Tuomey.

Edmund R. Taylor, M.D.  
Chairman, The E. M. S.  
Committee of S. C. M. A.

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E. Kenneth Aycock, M.D., M.P.H.  
Secretary and State Health Officer

## STATE BOARD OF HEALTH NEWS

### DRUG ABUSE SCREENING

Because of the rapid growth in drug abuse in recent years, the Bureau of Laboratories has developed a Toxicology Section to aid in the diagnosis and treatment of these patients. We have the capability to quantitatively detect the following classes of abuse drugs in biological fluids.

1. **Narcotics and Analgesics** — heroin\*, morphine, cocaine, codeine, meperidine, propoxyphene, methadone.
2. **Sympathomimetics** — amphetamine, methamphetamine.
3. **Hypnotics and Sedatives** — barbiturates, glutethimide, phenothiazines.

At the present time, we cannot determine the presences of hallucinogens (lysergic acid diethylamide, cannabis, mescaline, psilocybin, and etc.) in **BIOLOGICAL FLUIDS**. Analytical testing techniques are becoming available for most of the hallucinogens and this service will be provided as soon as they are technically and fiscally feasible. Samples of any type drug may be submitted for analysis; however, those samples involved in legal process should be submitted to State Law Enforcement Department.

\*Presumptive test

Specimens submitted for drug determinations are analyzed by thin-layer chromatography (TLC), gas liquid chromatography (GLC), UV spectrophotometry, and various technical procedures.

Because the quantities of drugs usually present in biological fluids is minute, urine is the specimen of choice. It is easily obtained and can be collected in relatively large quantities. A minimum of 20 ml of urine is required for testing. Serum or plasma may also be submitted, 2 ml is the minimum amount needed. Specimens will be accepted from physicians, hospitals and county health departments. Results will be mailed within 48-72 hours after receipt of the specimen at the laboratory. Unfortunately, these laboratory facilities are not operated on a 24 hour basis.

Urine or serum samples must be submitted in a clean, leak-proof container bearing the name of the patient and the date of collection. Information accompanying these samples should include the physician or health agency's name and mailing address, the name and age of the patient, identity of the suspected drug, if known, and a complete clinical history.

## BOOK REVIEW

APPROACH TO THE MEDICAL CARE OF THE SICK NEWBORN, by Sophie H. Pierog, M. D. and Angelo Ferrara. The C. V. Mosby Company, Saint Louis, 1971. Pp. 281.

This very readable and well-bound book describes in 281 pages the philosophy, technical, organizational and medical aspects of the care for the sick newborn. The comprehensive index helps the physician to use the book as an instant source of practical information with almost any problem that can occur in the newborn. Each chapter is followed by a selected list of references numbering between 3 and 64. Five appendices on technique, explanation of terms, drugs most frequently used and content of formula as well as normal laboratory values in the newborn conclude the book. This volume represents a rich source of informa-

tion and suggestions for the care of the sick newborn. It is a comprehensive review of the authors experience in a neonatal intensive care unit attached to a large city hospital. It appears extremely helpful to anyone who either works in such a unit or who plans to introduce and organize this kind of care in a hospital. In reviewing this excellent and readable book, I regretted that the factual information with all its technical aspects overshadowed the joy and personal satisfaction one can look forward to receive when working in this field.

I recommend this book to anyone regardless of profession who works in the field of intensive care for the sick newborn.

Klaus-Peter Herberg, M.D.  
Child Neurologist, WSHPI

---

THE PHYSICIAN'S UNION MOVEMENT, its motivation, objectives and inherent dangers, was described by AMA President-Elect Russell B. Roth, MD, in a recent address to the Medical Society of County of Kings and Academy of Medicine of Brooklyn, New York. The speech will be published in the April 2 issue of **American Medical News**. "The great advantage in joining a functioning union is the assistance and expertise in organization," Dr. Roth said. "The disadvantage is the need to conform to the rules and regulations of the major group with the attendant sacrifice of independence." He continued: "It is one thing to abide by majority decisions of professional peers. It could be something quite other to be required to abide by the decisions of non-medical hierarchical union officials. One may appropriately ask, 'How

much freedom must be surrendered to protect freedom?'"

"DOES THE UNION MOVEMENT unify or divide?" Dr. Roth asks. "If we, as a profession, are to defend our professionalism and our freedoms, if we are to cope effectively with the aspects of PSRO, of HMOs, of national health insurance, or of Phase 3 economic discriminations, which we regard as deleterious, we must act in strength. The AMA is still the largest, strongest, most influential advocate for the profession. Defections to the right or to the left can only weaken it. . . I would hope. . . that no one would become confused as to who the enemy is. It is not the AMA. We have mutual adversaries and should not waste our strength and our substance fighting one another."

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## SUICIDE

With suicides increasing almost 20 percent during the past decade, California continues to bear the dubious distinction of leading the nation in ratio of suicides to population.

Current suicide trends in California are outlined in a monograph, "Suicide in California 1960-1970," authored by Nancy Allen, who recently joined the UCLA Neuropsychiatric Institute as suicide prevention expert. Ms. Allen prepared the monograph while serving as Assistant Chief of the Bureau of Health Education, State Department of Public Health. The study examines the methods used by coroners to distinguish between accidental deaths and suicides and suggests the use of "psychological autopsies" in questionable cases.

The report shows that liberation for women has also meant an increase in suicides, that there are many more suicides than are reported, that the highest increase in suicides in the past 10 years has been among black women between 20 and 24 years, that suicides among the young of all races is growing at a tragic rate, and that San Francisco continues to lead the nation in suicides.

California's suicide rate increased from 15.9 per 100,000 in 1960 (2,502) to 18.8 in 1970 (3,744). While the rest of the country was hovering between 10.6 and 11.1 per 100,000 during the 10-year period California's figures went up and up, according to Ms. Allen.

So many more women in California committed suicide that the state's statistics again led the nation. While the male-female ratio in the U.S. was 2.6 to 1 in 1969, in California it was 1.7 to 1.

Ms. Allen quotes Walter Gove in "Sex, Marital Status and Suicide" on the price women pay for becoming more involved outside the family and entering the working arena. "Their drive for success and recognition has increased pressures and opened more possibilities for failure. In precisely those areas where liberated women are making most progress, the male-female suicide ratio moves toward 'equality'."





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hemorrhoidal  
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Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions; edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increase and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

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VOLUME 69

JUNE, 1973

NUMBER 6

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Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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# Valium® (diazepam)

To help you manage excessive psychic tension



# Pinworm therapy is often a family affair



**Contraindications:** History of hypersensitivity to thiabendazole.

**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.

**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction,

patients should be carefully monitored.

**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live *Ascaris* in the mouth and nose. Hypersensitivity reactions



## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.

*The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).*

MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.

The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1 ½
100	1.0	2
125	1.25	2 ½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days.  This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large round-worm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

\*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

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include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.  
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For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., INC., West Point, Pa. 19486

# The Journal of The SOUTH CAROLINA Medical Association

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

## Contributions of Original Articles

**Mailing address.**—Edw. E. Kimbrough, M.D., Editor. 2709 Laurel Street, Columbia, S. C. 29204.

**Length.**—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

**Manuscripts.**—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

**Illustrations.**—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

**References.**—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

**Reprints.**—Reprints will be made for the author at established rates.





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Tablets of 100 mg.

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**Indications:** Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

**Contraindications:** Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

**Warnings:** Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against po-

tential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

**Precautions:** The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

**Adverse Reactions:** This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia,

gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement.

(B)98-146-800-F (10/71)

For complete details, including dosage, please see full prescribing information.

GEIGY Pharmaceuticals  
Division of CIBA-GEIGY Corporation  
Ardley, New York 10502



# Opinion & Dialogue

## "Prescription drugs – who should determine the maker?"

### Dispenser of Medicine

Clifton J. Latiolais  
President  
American  
Pharmaceutical  
Association



### Maker of Medicine

C. Joseph Stetler  
President  
Pharmaceutical  
Manufacturers  
Association



"Too many doctors are indifferent to the economic consequences of their decisions." So stated a recent issue of *Medical News Report* (December 4, 1972), an independent weekly newsletter published by former AMA Chief Executive F. J. L. Blasingame, M.D.

#### Doctor, are you indifferent...?

In discussing an anticipated increase in Blue Shield rates, Dr. Blasingame's newsletter had this to say:

"In general, it can be said, MD's have given the impression they are not particularly concerned with the increase in cost of health care to their patients..."

"True, an MD's training is primarily scientific, but in the real world of practice, all of his scientific decisions have a price tag, or an economic impact. The economics of health care beckon the practitioner's attention. Concern for economics of medicine

When the pharmacist recommends that a drug product other than the one ordered be dispensed, the prescriber invariably permits the change when he feels the best interests of the patient will be served.

#### Shortcomings of Pro-Substitution Argument

The fact remains that it is necessary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, the unilateral decision of the pharmacist, made in the absence of clinical knowledge of the patient, could expose him to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothing in the pro-substitution argument that offsets these risks.

#### The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledge about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degree, puts him at a disadvantage. Most often, a practicing physician will need expert knowledge of no more than 25

should be an obligation of medical practice...

"Medical societies ought to conduct continuing campaigns to point out the substantial savings that could be realized thru deductible insurance and protection for catastrophic illness. At the very least, they should, in the patients' interest, question the tactics of any insurance organization that raises health care costs by forcing policyholders to buy insurance they may not need or want and probably won't ever use.

"Too many doctors are indifferent to the economic consequences of their decisions. Too many, for example, habitually hospitalize patients for the convenience of the MD. It's nonsense to deny such habits exist...

"Doctors, thru their medical societies, have unhesitatingly appealed to their patients for support in the fight against government interference with the private practice of medicine. And the public in the past has responded. It's time the American Medical Association and state and local medical societies paid off the debt by decisive action to hold down the cost of medical care."

### Cost of Drugs

Insurance rates and hospital charges are only two factors in health

care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists are *concerned*. Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

### Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining

high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

### APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

*(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)*

or 30 drugs that he selects to treat the majority of conditions encountered in his practice. Moreover, the physician's choice of a specific brand is based on his knowledge of the patient's medical history and current condition, and his experiences with the particular manufacturer's product.

Some substitution proponents have argued that the dispensing of a prescription is a simple two-party transaction between the pharmacist and the patient, and that a substituting pharmacist may avoid even a technical breach of contract by simply notifying the patient that he is making the substitution. I would judge that few courts would be sympathetic toward a pharmacist who substituted without physician approval and who undertook a legal defense that seeks to make the patient responsible for the pharmacist's actions.

### Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests

the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

### Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

### Summary

In short, what the American Pharmaceutical Association advo-

cates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

*(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)*

Pharmaceutical  
Manufacturers Association  
1155 Fifteenth Street, N.W.  
Washington, D.C. 20005





# IN ASTHMA IN EMPHYSEMA



*optional  
therapy*



## **THE** mudranes®

All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications** are listed above. **MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with ½ to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

### **MUDRANE—original formula**

*First choice*

### **MUDRANE-2**

*When ephedrine is too exciting  
or is contraindicated*

### **MUDRANE GG**

*During pregnancy or when K.I. is  
contraindicated or not tolerated*

### **MUDRANE GG-2**

*A counterpart for Mudrane-2*

### **MUDRANE GG ELIXIR**

*For pediatric use  
or where liquids are preferred*


*Clinical specimens  
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WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*







**standing**  
**freed Man's**  
**hands** but increased  
blood pressure in  
hemorrhoidal  
veins

**Precaution**

Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects.

Symptomatic relief should not delay definitive diagnosis or treatment.

**Dosage and Administration**

Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides.

Regular Anusol: one suppository in the morning, one at bedtime, and one immediately following each evacuation.

to help ease  
acute symptoms of **Anusol-HC<sup>®</sup>**  
hemorrhoids

**Hemorrhoidal Suppositories with Hydrocortisone Acetate. On your Rx only!**  
Each suppository contains hydrocortisone acetate 10 mg; bismuth subgallate 2.25%; bismuth resorcin compound 1.75%; benzyl benzoate 1.2%; Peruvian balsam 1.8%; zinc oxide 11.0%; and boric acid 5.0%; plus the following inactive ingredients: bismuth subiodide, calcium phosphate, and coloring in a bland hydrogenated vegetable oil base containing cocoa butter.

for long-term  
patient  
comfort **Anusol<sup>®</sup>**

**Suppositories and Ointment** Each suppository or gram of ointment contains the active ingredients of an Anusol-HC suppository minus the hydrocortisone.

**Warner/Chilcott**



Division,  
Warner Lambert Company  
Morris Plains, New Jersey  
07950

ANGP-34

# What's on your patient's face...

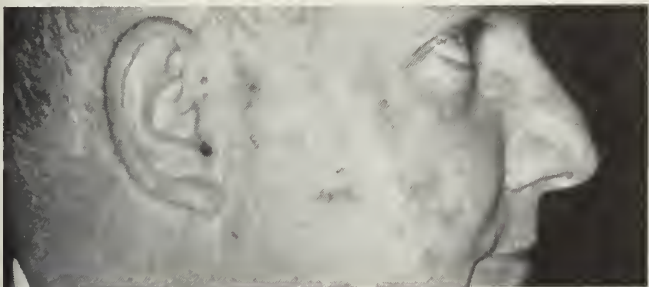
may be more important than  
his chief complaint



The lesions on his face may be solar/actinic — so-called 'senile' keratoses...and they may be premalignant.

## Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics: the typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent, and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.



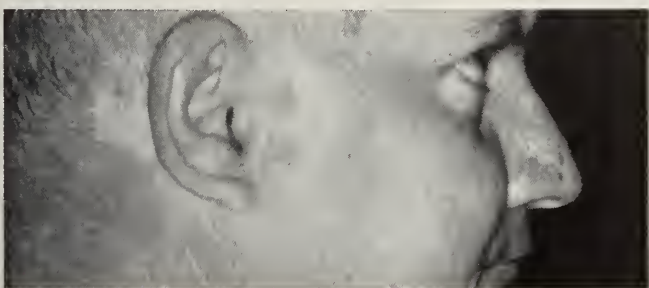
*Patient P.T.\* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electro-surgical procedures.*

## Sequence of therapy/ selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; the reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

## Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.



*Patient P.T.\* seen on 6/12/67, seven weeks after discontinuation of 5%-FU cream. Reaction has subsided. Residual scarring not seen except for that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.*

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local — pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported — insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with non-metal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers — containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes — containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

This patient's lesions  
were resolved with


**Efudex®**  
**(fluorouracil)**  
5% cream/solution  
...a Roche exclusive



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

\*Data on file, Hoffmann-La Roche Inc., Nutley, N.J.





When you  
can't control  
the cause...

you can  
control its  
effect.

### **PALOHIST**

An antihistamine-decongestant available in slow release capsules containing phenylephrine hydrochloride, 25.0 mg.; chlorpheniramine maleate, 7.5 mg.; pyrilamine maleate, 25.0 mg.; methapyrilene hydrochloride, 12.5 mg. Also available as liquid in regular non-sustained release dosage.

### **PALOHIST MILD**

Same sustained release capsules and formula as PALOHIST except in one-half strength per capsule.

### **HISTOR-D**

A sustained release capsule that allows prompt symptomatic relief and a continuing release of remaining medication over a period of 6 to 10 hours. Each capsule contains chlorpheniramine maleate, 8 mg.; phenylephrine HCl, 20 mg.; methscopolamine nitrate, 2.5 mg.

Complete information for usage available to physicians upon request.



**palmedico, inc.**

ETHICAL PHARMACEUTICALS • P. O. DRAWER 3397 • COLUMBIA, S. C. 29203

# THE CHALLENGE OF PAIN



# FOR THE PHYSICIAN **THE CHALLENGE:**

## **How do you evaluate pain?**

There are as many degrees of pain as there are people who experience it. And the intensity of pain — a question of degree — varies with the individual. Your training, knowledge, experience and skill provide the ability to interpret not only pain, but your patient's tolerance as well. Only you can place pain in its proper perspective.

## **How do you manage pain?**

Minor aches and pains can usually be controlled with mild analgesics. Intense pain may require more potent medication. But for effective analgesia in mild-to-moderate pain, you can depend upon Anexsia-D.





FOR THE PATIENT IN PAIN

# ANEXSIA<sup>®</sup>-D

May eliminate, delay or reduce the need for  
parenteral analgesics.

---

Produces significant relief of mild-to-moderate pain.

---

Anexsia-D has a schedule III classification which  
permits prescription refill up to six months,  
or five times, at your specification.

---

# ANEXSIA<sup>®</sup>-D

Hydrocodone bitartrate 7 mg. (Warning: may be habit forming), Phenacetin 150 mg.,  
Aspirin 230 mg., Caffeine 30 mg.

(Full prescribing information on following page)

**BEECHAM-MASSENGILL PHARMACEUTICALS**  
Div. of Beecham Inc.  
Bristol, Tennessee 37620

# MEET THE CHALLENGE OF PAIN WITH **ANEXSIA-D<sup>®</sup>** *for significant relief of mild-to-moderate pain*

Hydrocodone bitartrate 7 mg. (Warning: may be habit forming), Phenacetin 150 mg.,  
Aspirin 230 mg., Caffeine 30 mg.



**Composition:** Each white grooved tablet of Anexsia-D contains Hydrocodone bitartrate 7 mg. (Warning: may be habit forming), Phenacetin 150 mg., Aspirin 230 mg., Caffeine 30 mg. **Actions and Uses:** Analgesic, antitussive. Indicated for the relief of mild-to-moderate pain. **Dosage and Administration:** 1 or 2 tablets every four to six hours, or as required to relieve pain. **Precautions and Side Effects:** The habit-forming potentialities of Anexsia-D are less than those of morphine and greater than those of codeine. The usual precautions should be observed as with other opiate analgesics. Anexsia-D should be used with caution in patients with known idiosyncrasies to aspirin and phenacetin and in those with blood dyscrasias. It is generally well tolerated, but occasionally gastric upset or constipation may occur. **How Supplied:** Bottles of 100 and 1000 tablets. **Caution:** Federal law prohibits dispensing without prescription.

**BMP**

**BEECHAM-MASSENGILL PHARMACEUTICALS**  
Div. of Beecham Inc.  
Bristol, Tennessee 37620



# Encounter under the Scanning Electron Microscope



## SEM reveals changes in *E. coli* exposed to antibacterial agents

The Scanning Electron Microscope (SEM) is the only instrument which gives 3-dimensional views on a microscopic level. This permits the surface morphology of microorganisms to be observed in

detailed perspective. Changes in surface morphology of *E. coli* exposed to various antimicrobial agents are seen on the following page. An SEM photomicrograph of normal control *E. coli* appears above.





*E. coli* + sulfamethoxazole



*E. coli* + tetracycline



*E. coli* + cephalothin



*E. coli* + ampicillin

## Different modes of antibacterial action — Similar changes in morphology

As part of a series of experiments,<sup>1-3</sup> strains of *E. coli* proven susceptible to each antibacterial agent were exposed to 1 MIC of the respective antibacterials for a three-hour period. Included were cell-wall-active drugs, ampicillin and cephalothin; a drug interfering with intracellular protein synthesis, tetracycline; and a chemical agent which acts by interference with para-aminobenzoic acid, sulfamethoxazole.

As seen above, elongation of the bacilli, mid-cell defects and spheroplast-like forms may be appreciated with the SEM technique. These changes in bacterial morphology were similar... regardless of the antibacterial agent used and irrespective of

its mechanism of action.

"At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."<sup>2</sup>

It should be noted that no clinical conclusions can be drawn from this study, as it is not always possible to extrapolate *in vitro* data to humans.

**References:** 1. Klainer, A. S.; Fass, R. J., and Perkins, R. L.: Scientific Exhibit presented at the 25th American Medical Association Clinical Convention, New Orleans, La., Nov. 28-Dec. 1, 1971. 2. Klainer, A. S., and Perkins, R. L.: *Antimicrob. Agents Chemother.*, 1:164, 1972. 3. Klainer, A. S.: Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media.** The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

**Contraindications:** Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

**Warnings:** Safety during pregnancy has not been estab-

lished. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias* (agranulocytosis,

# Encounter in Clinical Practice

## Control of primary bacterial offenders

Antibacterial Gantanol® (sulfamethoxazole) controls susceptible strains of *E. coli* and other gram-negative and gram-positive organisms

often implicated in acute nonobstructed pyelonephritis and cystitis.

## Prompt antibacterial blood and urine levels

In from 2 to 3 hours after the initial 2-Gm adult dose, antibacterial levels are present in

both the blood and urine.

## B.I.D./T.I.D. dosage for around-the-clock coverage

Subsequent 1-Gm doses provide up to 12 hours of antibacterial coverage. More severe u.t.i. may require a q. 8 h. dosage regimen. Either schedule provides coverage during the waking

and sleeping hours—especially important during hours of sleep when normal urinary retention tends to favor bacterial proliferation.

## Also effective in nonobstructed chronic and recurrent u.t.i.

It is not uncommon for the elderly and the debilitated to develop chronic and/or recurrent nonobstructed urinary tract infections such as pyelonephritis and cystitis. Such cases often re-

spond satisfactorily to Gantanol. The increasing frequency of resistant organisms is a limitation of usefulness of antibacterial agents including sulfonamides, especially in chronic or recurrent u.t.i.

## Your Option: Tablets or Suspension

Either dosage form—the Tablets or the pleasant-tasting, cherry-flavored Suspension—can provide the dependable antibacterial activity necessary to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement may usually be expected in 24 to 48 hours. The usual precautions with sulfonamide

therapy should be observed, including adequate fluid intake. Gantanol (sulfamethoxazole) is generally well tolerated with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended.

## In nonobstructed cystitis and pyelonephritis due to susceptible organisms

## Gantanol® (sulfamethoxazole) Basic Therapy

aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thy-

roid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age** (except adjunctively with pyrimethamine in congenital toxoplasmosis).

*Usual adult dosage:* 2 Gm (4 tabs or teasps.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

*Usual child's dosage:* 0.5 Gm (1 tab or teasps.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110



# Two forms of Cordran®

## Flurandrenolide



Additional information available  
to the profession on request.

Eli Lilly and Company • Indianapolis, Indiana 46206

300060



# The Journal

of the

## South Carolina Medical Association

VOLUME 69

JUNE, 1973

NUMBER 6

### THE BRITISH NATIONAL HEALTH SERVICE

GRADY H. HENDRIX, M. D. \*

I had the opportunity to spend 1971-72, as a consultant in cardiology at Guy's Hospital, London, and the following are some of my impressions of the functioning of the British National Health Service.

#### ABSENCE OF FINANCIAL CONSIDERATIONS

The British citizen considers this the primary benefit of the National Health Service; he is relieved of all direct financial responsibility for his and his family's health care. The only charge for any legitimate health cost is 50 cents for outpatient prescriptions for individuals between the ages of 14 and 65. Many lay people did not seem to relate taxation and the provision for health services. Many believe that in America medicine is practiced completely on a monetary basis and that if one did not possess money to pay a physician or hospital that he was denied necessary medical care. They had very little concept of voluntary health insurance and most did not know of the exis-

tence of Medicare, Medicaid, Vocational Rehabilitation, or Crippled Children's Services. The cost of medical care in America seemed to be grossly exaggerated. Actually, the per diem cost of a bed on a 20-30 bed ward at Guy's Hospital was the same as a bed in a 4 bed ward at the Medical University Hospital and private fees of consultants were essentially the same as the fee schedule of the professional staff of the Medical University Hospital. The patient does not pay either of these charges directly under the NHS.

Financial consideration did not enter in the decision to hospitalize patients but needless hospitalizations did not appear to occur at Guy's Hospital. Hospitalizations were generally longer than here; cardiac catheterization requires a 48 hour admission at the Medical University Hospital, whereas at Guy's Hospital three to six days were required. This has the advantage of "digesting" the patient better and the disadvantage of tying up a bed longer.

#### FACILITIES

Hospital facilities are generally old and outmoded but in recent years an intensive building program has begun to replace many of the older facilities. Most wards are large with rows of beds about four

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feet apart, the only privacy being curtains around the bed. The hospitals are provided with adequate technological features to practice good medicine in most instances.

### DELAYS

The stories one hears of delays for elective procedures are generally true and the "que" is one of the biggest complaints in the country. There was no wait for cardiac catheterization at Guy's Hospital as the cardiac group was very energetic and hard working. The wait for "elective" cardiac surgery was one to two years because of the lack of operating time due to the pressure to do general surgical procedures. Cardiac catheterization procedures, including coronary arteriography, were usually at least one year old before patients received cardiac surgery. I personally saw patients who had been waiting on a hysterectomy for three years and a herniorrhaphy for two years. Nevertheless, patients at Guy's Hospital in urgent need of medical care and true emergencies were well taken care of on an emergency basis. The truly elective patients, however, found themselves pushed further and further back frequently because of emergencies.

### PATIENT-PHYSICIAN RELATIONSHIP

The patient is completely free to select and enroll with any general practitioner he desires as his family physician. The general practitioner is not required to accept patients he does not desire. The patient cannot "doctor-hop" once he is enrolled with a certain general practitioner except in emergency situations when he is away from his home area.

Referrals are made by the general practitioner to the hospital and consultant of his and the patient's choice anywhere in the country. The patient will be seen as an outpatient in the clinic on referral or hospitalized, and he can also be followed up as needed at the referral center. The patient is referred to a consultant's

service and the consultant supervises the outpatient facility and attends on his service. The house staff and registrars provide most of the day to day care.

Self referral was impossible; there is no way a patient can see a consultant without being referred by his general practitioner.

I felt patients desired a close physician relationship with their neighborhood general practitioner but did not expect such a relationship from the consultant when referred.

### CONSULTANTS

Consultants are board certified or qualified specialists who are all hospital based and supervise all hospital care. They are in charge of teaching in the teaching hospitals. Since patients must be referred to their services in order to be hospitalized, there is control over the qualifications of the physicians practicing in hospitals and performing procedures and surgery. They are paid salaries and have all facilities provided. The number of consultant positions seemed fairly restricted; Guy's Hospital with 1,000 beds had only two consultant cardiologists. Large house and registrar staffs are necessary to function under the consultants in order to get the work done. My impression was that most consultants were satisfied with their lot, particularly if they had a modest private practice.

### HOUSE STAFF AND REGISTRARS

Graduates usually spend two years as general house officers on various services and then become a general practitioner or registrar in specialized areas. When a registrar spends the required time in a specialized area training, he can apply for a consultant position. Vacancies on hospital staffs for consultants occur only through attrition. One stays a senior registrar until he is able to obtain a consultant position. This varies with the specialty and in some may take seven to ten years. The only alternative is to emigrate or go into general practice. Obtaining

one's consultant position at age 40 is not unusual. The obtaining of consultant positions seemed to have a certain amount of politics involved in some instances.

Salaries for house staff and registrar positions is quite good and is about the same as at the Medical University of South Carolina. Senior registrars are paid overtime in addition.

### GENERAL PRACTITIONERS

The general practitioner is restricted to office practice and house calls and all patients requiring hospitalization have to be referred and placed under a consultant's care. The general practitioner was free to follow them in the hospital, but I never saw one visit his patient in the hospital. I'm sure this represents logistics and demands on his time rather than disinterest. The general practitioner was required to provide coverage 24 hours a day, seven days a week, which required call sharing with others in the area as well as a tremendous amount of "moonlighting" by house officers and registrars.

The general practitioner is paid by the National Health Service by the number of patients on his rolls. He receives the same amount of money for a patient that makes no visits per year as one who is constantly visiting.

My impression was that visits to the physician were made which frequently were unnecessary and probably would not have been made had there been even a token charge. A token charge to reduce unnecessary visits has been discussed but is generally opposed by the public and probably will never be instituted. The advantage of "unnecessary" visits is that no doubt there are instances where what may be trivial to the patient results in much earlier care for a serious problem.

General practitioners are required to make house calls and the public expects and demands it. Refusal to do so may result in a complaint by the patient, and the physician can be charged and fined. A number of such instances were reported

in the newspaper during my year. I think the privilege of house calls is abused by the patients even though it no doubt is justifiable for aged and infirm people. Many use it for their convenience even though the doctor's office may be only a few blocks away. Well staffed emergency rooms are available in all the major hospitals where critically ill patients can be taken at any time directly or on referral by the general practitioner.

The general practitioner seems rather unhappy with his lot; his interesting patients must all be referred, he must contend with vast amounts of paperwork, and he has very little control over abuse of his practice by patients.

### PRIVATE PRACTICE

Private practice represents only a small minority of practice. This seems to be increasing and private insurance programs are available. The National Health Service is mandatory, so one pays taxes for it whether he utilizes it or not. Many private patients are from out of the country, particularly the common-wealth countries.

Some purely private hospitals such as the Harley Street Clinic are operated, but most major teaching hospitals have facilities for the consultants there to engage in private practice. Guy's Hospital maintained a separate building with private rooms for such patients and the hospital charge to the patient was the same as the calculated per diem rate for a patient under the National Health Service who would probably be on a large open ward. Separate outpatient facilities were also maintained and operated for private patients.

A private patient could be seen without delay and would be taken care of strictly by the consultant, without house staff. The system was set up so that the house staff and registrars did not participate in the care of private patients to any significant degree. The consultant must attend to their every need. The "jumping of the queue" by private patients was



one of the major complaints by the NHS patients. The consultant charges the patient a fee for service which is about the same as that charged in the Medical University Hospital at Charleston, S. C.

#### OVERVIEW

The Briton complains about many aspects of the NHS but will never give it up. He feels that he has the best system in the world and that it is better than our system. It is unlikely that a token charge will ever be acceptable as a means of reducing abuses. Many members of the Labor Party wish to abolish and forbid any private practice and this may happen even though an increasing number of patients prefer to buy private insurance in order to have the convenience and to avoid delays. The present government supports the right of private practice as it feels it could not afford to keep quality consultants in the country if they could not earn additional income. This is probably true.

The physicians in Guy's Hospital were of an excellent quality and practiced very good medicine. The nursing service was excellent and the wards well staffed. I was also impressed by the ambulance service and the emergency facilities.

Physicians did not seem to be held in very high esteem by the public or the politicians and were frequently attacked by both. However, malpractice was virtually unheard of and my liability insurance for a year cost \$25.00.

I feel that the NHS is held together primarily by the dedication of the physicians, as well as nurses and technical personnel. The British Government and public appear to me to have taken advantage of this dedication in many ways.

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This is the first in a series of articles by Dr. Hendrix relating his experiences with British medicine. Following appears his report on "Guy's Hospital and Medical School, London."  
Editor

## GUY'S HOSPITAL AND MEDICAL SCHOOL, LONDON

GRADY H. HENDRIX, M. D.\*

I had the privilege of spending a sabbatical year at Guy's Hospital, London, in 1971-72, and felt that the readers of *The Journal* would find some of the history and personalities associated with this illustrious institution to be of interest.

### "The Borough"

Guy's Hospital is located in the Borough of Southwark in Southeast London, an area of docks, warehouses, tanneries, breweries, and markets. It has always been an area inhabited by the working class and has never been a fashionable section of London. It is located on St. Thomas Street one block from the south end of London Bridge and one-half block from London Bridge Railway Station. Across the river Thames is the old city of London, which is now the business and commercial center of the city as well as the Tower of London and St. Paul's Cathedral. Travelers leaving the city southward would exit from the south end of London Bridge and this was referred to as the South Walk which became contracted to Southwark over the years.

The area of the hospital is not one which the usual tourist visits, but is nevertheless

rich in history. The original London Bridge was built in the 12th century and was the only bridge spanning the Thames until the 18th century. Shops were built on the bridge and at the southern end near the present day hospital was traitor's gate on whose spires were put the heads of beheaded individuals for display. An alcove of the original London Bridge survives today in the Guy's Hospital Courtyard. The second London Bridge, opened in 1831, is now in Lake Havasu, California, and the third is under construction.

A number of inns were in the area some of which survive. The Tabard Inn was the point of assembly for Chaucer's band of pilgrims for their departure to Canterbury in April, 1380. Its courtyard is now used by the maintenance department of Guy's Hospital and the inn itself is no longer in existence. The George Inn dates from the 15th century and its galleried courtyard was the setting for Shakespearean plays during its early years. It is alive and well today, is the only surviving galleried inn in London, and is a favorite spot for Guy's Hospital physicians, nurses, and students. These are only two of many which existed or still exist in the area.

The Globe Theatre was the principal focus of Shakespeare's plays and he himself lived and worked in this area during his time in London. The site of the theatre

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Figure 1. Hospital grounds facing St. Thomas Street.

is three blocks from the hospital, but the theatre itself was destroyed by fire in the 17th century. Nearby is Southwark Cathedral where Shakespeare worshiped and which contains a memorial to him. John Harvard, founder of Harvard University in the United States, was baptized in this cathedral where worship was first conducted in Roman times and whose present building has survived since Norman times.

Clink Street survives but the Clink Street Prison does not. The expression of "Clink" for jail or prison originated from this prison. Charles Dicken's parents were imprisoned as debtors in this prison. He knew this area well, worked as a "blacker" nearby, and used settings of this area in many of his stories.

The area of the hospital was heavily bombed by the Luftwaffe in 1940-41. Much of the land for post-World-War II development came from bombed out areas surrounding the hospital. A bombed out church three blocks away has been left as a reminder of those terrifying days.

The hospital today continues to provide medical care for the inhabitants of the area but also receives referrals from the entire southeastern area of the city, as well as from everywhere in the British Isles.

### Thomas Guy and the Origin of the Institution

The first hospitals established in London were St. Bartholomew's and St. Thomas in the 16th Century under authorization of King Henry VIII. The next two centuries were consumed by the civil war and the London fire of 1666, and it was not until the early 18th century that the care of the sick in hospitals again became of public interest. This was followed by the founding of Westminster Hospital in 1719, Guy's in 1721, St. George's in 1733, The London in 1740, and Middlesex in 1745.

Thomas Guy was born in 1644 only a few blocks from the present Guy's Hospital. His father was in the business of barging coal from ships in the Thames to coal merchants in the Thames Basin. His father died when he was eight, the oldest of three children. His mother left London at that time and returned to her native Tamworth to live with her family. When he was 16, Thomas Guy was apprenticed with a bookbinder in the city of London for eight years following which he opened his own business near the Mansion House in London for the publication and selling of books. He was quite successful and in 1679 secured appointment as publisher for the Oxford University Press. This association lasted until he was 48 years of age,



Figure 2. Statue of Sir Thomas Guy, founder of Guy's Hospital.



## GUY'S HOSPITAL

and he was a fairly wealthy man at that time. His first act of philanthropy occurred at that time when he constructed a new grammar school and almshouse for poor women in the village of Tamworth where he spent most of his early life. Later he constructed a town hall for the same village. He was chosen Sheriff of London in 1694 and from 1695 to 1707 was a Whig member of Parliament. He became a benefactor of St. Thomas' Hospital and in 1704 was elected a governor of that hospital.

Thomas Guy was a benefactor of various causes around the beginning of the 18th century. One such incident is interesting in that in 1707 he donated 100 pounds to the support of 1400 persons living in tents in the Borough of Southwark adjacent to St. Thomas' Hospital. These people were protestant refugees from the Palatinate of Germany who had come to England in attempts to find their way to the Carolinas.

Thomas Guy lived frugally and remained a life-long bachelor. He invested wisely from an early age with his best investments being in stock of the South Sea Company which resulted in immense appreciation and made him a very wealthy man. He disposed of all of this stock in three months in 1720 and from it derived enough revenue to erect, furnish, and endow the hospital which was to bear his name.

Guy had developed a close friendship with Dr. Richard Mead, the most celebrated physician of the time, and this relationship was instrumental in Guy devoting his wealth to the creation of a new hospital. He had been profoundly impressed by the weak and incurables leaving St. Thomas' Hospital. He frequently gave them money as he saw them departing the hospital. He felt he could do the most good by helping these unfortunates, so he picked a site directly across from St. Thomas' Hospital on St. Thomas Street to construct a hospital to bear his name. Land acquisition began in 1721 and the hospital opened in 1726.

Thomas Guy died on December 27, 1724,



Figure 3. View from London Bridge railway station: Left foreground 30-story "tower block" under construction, left background New Guy's House, right foreground administrative buildings, right background Hunt's House constructed in 1852.

and did not see the opening of his hospital. He was buried in the parish church of St. Thomas on St. Thomas Street. His remains were moved to a crypt in the chapel of Guy's Hospital when it was completed in 1778.

### Evolution of the Hospital and Medical School

The original Guy's Hospital building served its purpose for almost two centuries. Hunt's House was completed in 1852 and Guy's House contained the surgical wards only from that time until its demolition. Hunt's House today still houses the Medical and Pediatric Wards as it has done for the past 120 years.

Thomas Guy's will specified that the hospital should be operated for "incurables" but also stated that the executor might specify the beds for other purposes if need be. Therefore, the hospital very rapidly developed into a general, full-service hospital which it remains today.

All patients hospitalized in the 18th century received treatment without cost to the patient or taxpayer as all funds, including salaries for physicians, were derived from Guy's endowment. The average patient stay between 1728 and 1734 was 80 days and one patient in eight died.

## GUY'S HOSPITAL



Figure 4. Hunt's House from inside the quadrangle.

A statue of Thomas Guy was placed in the front courtyard in 1731 where it stands today. The front square of the hospital was constructed from 1774 to 1780. The west side containing the chapel survives today, but the east side was destroyed by German bombs in 1940 and was rebuilt after World War II.

Medical education in England was in its infancy during the early years of Guy's Hospital. Edinburgh in Scotland was the only medical school in the British Isles. Physicians received training primarily under apprenticeships. It was 1745 before surgeons left the Barbers Company to establish themselves as a separate entity. This break led to demands for more formalized courses and to the beginning of medical school curricula.

The wards of Guy's Hospital were opened to student teaching in 1769 and Guy's and St. Thomas' operated a joint medical school from that time until 1825 when each established a separate school.

*Guy's Hospital Reports* was established in 1836 and continues today as a mode of scientific publication for members of the staff. The volumes of this journal contain most of the original contributions of such physicians as Bright, Addison, and Hodgkins. The introduction of *Guy's Hospital Reports* was due in part to a running feud

with the *Lancet* which began in 1823 which accused the hospital of nepotism, attacked Bright and Addison as being dull and pompous, and suggested that prospective students of medicine go across the street to St. Thomas' Medical School. *Guy's Hospital Gazette*, established in 1872 as a means of dissemination of non-scientific information and debate, continues today and is eagerly read. Past issues give interesting insight into the issues of the time, whether purely local, national, or international.

On April 29, 1857, nurses were relieved of floor scrubbing duties and individuals employed for this purpose. In 1858, 1,731 women were delivered with two maternal deaths. 1868 saw 364 major operations with 67 deaths. Amputations, herniorrhaphies, cesarean sections, and splenectomies were recorded. Carbolic acid was used as antiseptis in 1873. The nursing school was established in 1880 to accommodate "lady-pupils" arriving in considerable numbers for training. The dental school was established in 1888. The hospital began to have financial problems in the late 1800's and found it necessary to provide beds for paying patients as a source of revenue.

St. Thomas' Hospital and Medical School moved to a new location on the south bank of the Thames opposite Westminster in 1830. A surgical suite museum complete with sawdust on the floor remains across from the Guy's entrance. Between 1890 and 1910 a number of buildings were constructed around the area of the quadrangle of the hospital which are still used today. The first building to be constructed strictly as a medical school classroom and laboratory facility was dedicated by Prime Minister Gladstone in 1890. The Wills Library and the Gordon Museum which contain specimens and reports dating to the origin of the hospital were established during this period. Basic science departments passed from clinicians to individuals who devoted their entire teaching career to the particular subject during this time.



## GUY'S HOSPITAL

The outbreak of World War I in 1914 came at a time when Guy's was enjoying prosperity. Rapidly over one-half of the students and two-thirds of the physicians left to go to war. Many areas of the hospital were used for the care of wounded soldiers. The physicians remaining at the hospital worked diligently; it is said that "Mr. Marston, a surgical registrar, did not leave the hospital for 18 months."

Recovery from the war was marked by another period of expansion. Much of this was due to contribution by private benefactors the most notable of which was Lord Morris Nuffield founder of Morris Motors, whose statue stands on the hospital grounds today. Buildings constructed during the period between World War I and II still comprise a great portion of the present physical plant. Even though physical expansion occurred during this time, the institution was finding it increasingly difficult to operate on its endowment and patient fees.

World War II was met by a plan for Guy's to evacuate all patients to outlying hospitals to the southeast of London, and the hospital was to function as a casualty center for the southeast London area when the expected German air attacks began. The location of Guy's placed it in an area of heavy bombing due to the docks, warehouses, and industrial areas nearby. The first attack was on September 7, 1940, and continued almost nightly until the spring of 1941. Seventy-five casualties were admitted the first night which marked the beginning of 25 consecutive nights when casualties would be admitted. Many incendiary bombs fell on the roof which, if discovered immediately, could be extinguished. Students, nurses, and physicians all stood turns of "fire watching" on the roof during raids. The first of many high explosive bombs fell on the hospital area on September 15, 1940. One of these high explosive bombs entered the roof of Hunt's House and exploded in the staircase at the third floor level. Miraculously, no significant casualties occurred, but the only ac-



Figure 5. The George Inn.

cess to the patients was by iron fire escapes at the end of the building. The patients all were evacuated by this method until repairs could be made. Water mains, the power plant, telephones, and many other functions were destroyed many times, but fortunately a high explosive bomb never fell on a ward containing patients.

The greatest threat to the hospital occurred on a night in December, 1940. This particular "fire bomb" raid set three hospital buildings afire but they were all quickly under control. However, the surrounding area was virtually all afire in a high wind which was raining burning debris over the hospital buildings. When five of the six escape routes from the hospital complex were closed by fire, the hospital was evacuated and patients removed by the one remaining route. Next morning at 9:00 a.m. the hospital was ready to receive patients again, standing alone in a sea of burned buildings. Physicians and medical students were at their post even though their living quarters and personal possessions had been consumed by fire.

Except for the few hours during the massive fire bombing, the hospital was never closed to the reception of patients. Every morning saw the evacuation of patients that could be moved to the outlying hospitals of Orpington, Pembury, Farn-





Figure 6. A bombed out church from WW II near the hospital.

borough, the Wildernesse, and Preston Hall. Pre-clinical teaching facilities were transferred to Tunbridge Wells, some 30 miles south of London, and pre-clinical students transferred to and housed there.

The conclusion of the war saw many of the Guy's buildings damaged and some destroyed. The surrounding area was decimated. Many of the surrounding residential areas would never return to that purpose. Great quantities of cleared land became available as the area was cleared and Guy's purchased much of this.

This was also a period of social change and in 1947 the National Health Service was born and the voluntary system ended. On September 24, 1947, the Ministry of Health stated that "Guy's Hospital is transferrable to him." All lands, buildings, and equipment passed from the possession of the President and Board of Governors to the Ministry of Health on July 5, 1948; the state became responsible for the operation and financing of the institution from that point onward.

The University of London became the parent institution of the medical school in 1945, as it is for all of the London area medical schools today.

#### **The Triumvirate**

Richard Bright was born in Bristol in 1789, the son of a wealthy banker. He was educated at Edinburgh and Cambridge

with a break to accompany Sir George Mackenzie's party to Iceland in 1810 and to travel to Hungary in 1815. He was appointed a physician at Guy's Hospital in 1820. In 1827 he published his "Reports of Medical Cases Selected with a View of Illustrating the Symptoms and Cure of Disease by a Reference to Morbid Anatomy," in which he related "the indication of disease to be induced from an albuminous condition of the urine." He became intensely interested in renal disease from the clinical and pathological standpoint and in 1842 persuaded the hospital to set aside two wards containing 52 beds for the study of renal disease. His interest was not confined to renal disease and his numerous scientific articles are related to virtually every disease and organ system. Bright died in 1858 and he is memorialized at Guy's today in the form of a bust, a chapel memorial, and Bright ward, a medical ward.

Thomas Addison was born in 1793 in Cumberland County and took his degree from Edinburgh in 1815. He was appointed a physician at Guy's in 1824 as a contemporary of Bright. However, he was withdrawn and frequently suffered moods of depression as opposed to the outgoing Bright. He also was distant and cold to his patients, spent most of his time in research, and did not develop a significant practice. He reported three cases to the South London Medical Society in 1850 complete with post mortem findings "in all of them was found a diseased condition of the suprarenal capsules." His book on Addison's Disease appeared in 1855. He died in 1860 and his bust sits in the Gordon Museum, a memorial tablet is present in the chapel, and Addison Ward is a medical ward.

Thomas Hodgkin was a Quaker born in 1798 and took a degree from Edinburgh in 1823. He spent several years on the continent, following which Guy's appointed him as "curator of the museum and demonstrator of morbid anatomy." The Gordon Museum today is a monument to

him; the early post-mortem records are in his handwriting and he was the first to arrange a pathological museum in a systematic fashion by organ systems. He made many scientific contributions during this time including "on a peculiar enlargement of lymphatic glands and spleen." which later became known as Hodgkins Disease. His radical views led to problems with the administration. He refused fellowship of the Royal College of Physicians in 1837 and was not promoted to full physician along with Addison, following which he became embittered and his contributions in pathology ceased. Students rallied to his cause with petitions without success and in 1842 he resigned appointments both at Guy's and St. Thomas'. He practiced some medicine but mainly lent himself to causes; the Aborigines Society, the Ethnological Society, the Study of Philology, and on rendering aid to distressed Jews in the east where he died at Jaffa in 1866. Hodgkin's earlier friends attempted to help him financially in later years after his "dropping out" but he would consistently pass on their financial aid to causes which he felt more needy. There is nothing at Guy's today to remind one of Thomas Hodgkin other than his pathological specimens and files.



Figure 7. Cardiac catheterization laboratory.

#### "Other Famous Personalities"

Ernest Starling came to Guy's as a medical student in 1882 and became interested in physiology. He was appointed lecturer in physiology and in 1892 published the first edition of "The Elements of Human Physiology." He returned to Guy's to serve in a clinical capacity during the 1914-1918 war and is today commemorated at Guy's by Starling Ward, the medical intensive care and coronary care unit.

Braxton Hicks was born in 1823 and appointed obstetric physician at Guy's Hospital in 1859. He made many contributions to obstetrics of that day, particularly in the area of physiology of uterine contractions.

John Keats was born the son of a London stable groom in 1795. When 15, his parents died and his guardian later enrolled him in Guy's medical school as a surgical apprentice. Two years later he withdrew to write poetry and died in Italy of tuberculosis at the age of 26. Keat's House today comprises part of the out-patient facilities of Guy's Hospital.

Sir Samuel Wilks (1824-1912) was a brilliant pathologist who reported the first observations of visceral syphilis in *Guy's Hospital Reports* in 1863 and bacterial endocarditis in the same journal in 1870. Wilks Ward is a medical ward today.

Sir Astley Cooper was born in 1768 in Norfolk and became a surgical apprentice at Guy's at the age of 16 and a demonstrator of anatomy at 21. His contributions were many and his time marked the transition of surgery from the "barber type" to a scientist. In 1821 he removed a sebaceous cyst from the head of King George IV and was appointed a Baron. He died in 1841 and was buried in the Guy's Chapel. A statue of him stands in St. Paul's Cathedral and Astley Cooper Ward is a surgical ward today.

Many excellent physicians and surgeons continue to carry on the fine tradition of the hospital. Cardiology and cardiovascular surgery, with which I am most famil-

## GUY'S HOSPITAL



Figure 8. Coronary arteriography laboratory.

iar, are led today by Sir Russel Brock, Dr. Dennis Duechar, Dr. Donald Ross, and Dr. Edgar Sowton.

### Guy's Today

The complex today consists of 1,000 hospital beds and a medical, dental, and nursing school in a variety of facilities. Hunt's House, 150 years old, continues to house

the Medicine and Pediatric wards. The surgical and obstetrical service is handled in New Guy's House constructed since World War II. A new 30-story building is under construction to house the pre-clinical areas, the dental school, and some ward services.

All teaching, including pre-clinical, is done in this complex far removed from the parent University of London and the relationship to that institution carries no physical significance. Facilities are provided for cricket, squash, and tennis. Organized rugby is played on an inter-collegiate basis. A symphony orchestra and choral society is maintained, comprised of physicians, nurses, students, and employees.

The complex stands today as a monument to Thomas Guy, a man with no medical connection other than compassion for the sick, who gave his entire fortune, accumulated through hard work and frugality, to its conception.

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## X-RAY FILMS OF THE MONTH

### "AN OFT MISSED DIAGNOSIS"

DR. EUGENIA C. CARTER\*  
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To be unfamiliar with a disease process is to risk missing a diagnosis. This seems especially to apply to renal papillary necrosis, which is frequently unrecognized or unsuspected. This disease entity is characterized by ischemic infarction of the renal papillae with subsequent necrosis and sloughing of these areas. Portions of adjacent medulla may be involved.<sup>1</sup> This series of events correlates with clinical features of the disease process and forms the basis for certain roentgenographic findings.<sup>2</sup>

The precise mechanism of papillary necrosis is unknown but it is suggested that it occurs because of the vulnerability of the renal pyramids to ischemia. It is associated with diabetes mellitus, sickle cell anemia, chronic urinary tract obstruction and analgesic abuse, particularly phenacetin. It is frequently but not always associated with pyelonephritis. The exact role of infection in renal papillary necrosis is also not known. Some authors feel it is a variant of pyelonephritis seen in patients susceptible to infection.<sup>3,4</sup> Its development in phenacetin abuse, without clearly established antecedent or concomitant infection, is an enigma. The process may be unilateral or bilateral and one or all of the papillae may be involved.<sup>1,2</sup>

Clinically, the course of papillary necrosis is variable. It may be fulminant with episodes of acute pyelonephritis and renal colic corresponding to the passage of sloughed papillae. It may also follow an insidious course with the patient asymptomatic until severe renal insufficiency

intervenes.<sup>5</sup> In the past diagnosis was made almost exclusively by histologic examination of sloughed tissue passed in the urine or at autopsy. Its incidence in the past few decades has risen and this has been attributed both to a true rise due to the inclusion of cases involving analgesic abuse and to increased recognition. The use of urography has certainly contributed to this increase in diagnostic acumen.<sup>1</sup>

As mentioned earlier, there are certain characteristic roentgenographic findings in renal papillary necrosis. Nils Lindvall in 1960 reviewed 155 cases; his observations have been substantiated by other investigators and are summarized below.<sup>1,6,7</sup> Intravenous pyelography is the method of choice in demonstrating renal papillary

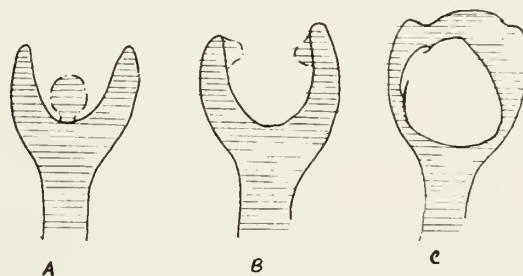


Figure I. Schematic representation of cavity formation in renal papillary necrosis.

- A: A medullary cavity with necrosis in the center of the papilla and the cavity communicating with the calyx via the papillary tip. The fornix is preserved.  
B: A developing papillary cavity with detachment occurring at the calyceal fornix.  
C: A fully developed papillary cavity with loss of the calyceal fornix.

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necrosis, if the status of renal function permits such a study. The most prominent feature of papillary necrosis corresponding to X-ray observations is the cavity formed by the sloughed papilla. However, it is possible to detect radiographic changes before actual cavity formation. Four early signs are:

- a) Local reduction in function seen as decreased contrast density in a lesser calyx.
- b) Dilatation of the calyceal fornix secondary to shrinkage of the necrotic papilla.
- c) Irregularity of papillary contours secondary to shrinkage.
- d) Incipient detachment seen as fine offshoots of contrast into the renal parenchyma.

The detection of these early findings depends on timing of the examination, technique and interpretation and is thus fraught with difficulty.<sup>1</sup>

Once the full-bloom picture of cavities has developed, radiographic interpretation is made easier. Two types of necrosis exist — a papillary form and a medullary variety. (See Figure I) In the medullary type the necrosis begins in the center of the papilla and when the necrotic debris sloughs, the cavity communicates with the

calyx via the papillary tip. The medullary cavities tend to be round or oval. Roentgenographically, a contrast-filled cavity in the tip of the papilla is seen, separated from the calyceal fornix by a thin rim of parenchyma. In papillary necrosis, the whole papilla and, on occasion, adjacent pyramidal tissue is involved. Detachment starts from the calyceal fornix and the cavity becomes a direct continuation of the calyx. In contrast to the medullary type, no fornix is seen. The shape of the cavities is triangular with the base towards the cortex.<sup>1</sup>

The sloughed papilla lying in the contrast filled, fully developed cavity performs a pathognomonic roentgenographic change termed the "ring shadow." (See Figure 11, large arrow) The sloughed papilla may further undergo change by fragmentation and passage, absorption, or by formation of concretions, with the typical appearance being that of a ring of calcium surrounding a radiolucent nucleus. The cavities themselves may enlarge due to progressive sloughing of necrotic tissue or even decrease in size owing to marked generalized shrinkage of the kidney. Sinus tracts can be demonstrated by the appearance of offshoots of contrast material into the renal parenchyma adjacent to a cavity. (See Figure II, small arrow) With changes in the cavities the calyces may become clubbed.<sup>1,8</sup> (See Figure III)

The differential diagnosis of renal papillary necrosis may include renal tuberculosis, renal dysplasia, calyceal diverticula or cysts, medullary sponge kidney, pyelonephritis without papillary necrosis, hydronephrosis, tumors and parenchymal backflow. But, clinical, pathological and roentgenographic signs, combined with a determined search for this elusive entity, should serve to establish the correct diagnosis.<sup>1</sup>

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# PNEUMATOSIS CYSTOIDES INTESTINALIS

D. M. CLINE, D. W. HIOTT,  
K. E. NUNNERY, R. G. SHEALY,  
W. C. TOWLES AND R. W. WATKINS\*

This interesting disease may be defined as the presence of multiple bubbles of gas in the submucosa or subserosa of the bowel wall.

DuVernoi wrote the earliest account of this disease in 1730, describing a patient at autopsy. In 1747 the anatomic pathologic features of the disease were discussed by Combalusier. Cloquet reported a case in 1820, also found at autopsy, and compared it with similar lesions noted in swine. Bang in 1876 was the first to give illustrations showing microscopic appearance of the gaseous cyst. Mayer in 1925 was the first to use the term "pneumatosis cystoides intestinalis". As of November, 1969, there had been 400 cases reported. Although some authors have reported higher incidence in males, the frequency in males and females is believed to be equal. The peak incidence is 30 to 50 years of age in males and 50 to 60 years in females, although the disease may occur at any age, including premature infants.<sup>1,2,3,4</sup>

## Case History

This 52-year-old caucasian male with severe coronary artery disease, class IV, had an attempt at resection of an akinetic ventricle and triple saphenous vein bypass grafting which was technically impossible, in January, 1971. He has remained in a state of chronic heart failure with a great deal of sputum

production which he often swallows and sometimes vomits. The following X-ray films were obtained after he had persistent complaints of constipation, vomiting, left upper and lower quadrant pain with bloating and mild temperature elevation. (Figure 1 and Figure 2)

## ETIOLOGY

Major authorities now feel that all cases of pneumatosis cystoides intestinalis are secondary to other pathology, either of the G.I. tract or the respiratory system. In approximately 60 per cent of cases this pathology lies in the G.I. tract and may include any condition in which either obstruction or perforation of the mucosa is present. Either event may allow gas to enter the bowel wall and track along either the serosa or mucosa. Among the most important of these conditions are peptic ulcer disease, pyloric stenosis, volvulus and mechanical trauma such as sigmoidoscopy or biopsy. Riegler and Pogue note that intramural gas is both the result of and an important diagnostic finding in mucosal necrosis.

The other 40 per cent of cases, once designated as "idiopathic" or "primary" pneumatosis cystoides intestinalis, are now considered to be secondary to lung pathology in which there is alveolar rupture. Macklin, in 1939, showed that alveolar rupture can allow air to course along the pulmonary vasculature to the mediastinum and then along the aorta and inferior vena cava to the retroperitoneal space. Macklin was not investigating pneumatosis cys-

\*The authors of this paper are students at the Medical University of South Carolina and the article is the result of their studies and research while under the supervision of Dr. Frank H. Gruber in the Department of Radiology of Roper Hospital.



Figure 1. Arrows indicate typical blebs.

toides intestinalis, however, and it was not until 1963 that Keyting and others showed that this air in the retroperitoneal space may easily course along the mesenteric vessels to enter the bowel wall. This theory of etiology is concurrent with the fact that a high percentage of reported cases has occurred in victims of asthma and obstructive emphysema, diseases in which alveolar rupture with mediastinal emphysema is particularly prone to occur.<sup>5,6</sup>

#### **PATHOLOGY**

The cysts are 1 mm to 10 cm in diameter, occurring subserosally and, less frequently, submucosally, separated by thin bands of hyalin connective tissue, with or without endothelial cellular linings. These cysts are thought to represent distended tissue spaces. However, cysts have been found in the lymph vessels, suggesting possible lymphatic involvement. The small bowel is most frequently involved, followed by colon, with involvement of the stomach and duodenum being rare.<sup>6</sup>

#### **DIAGNOSIS**

Characteristically, patients are past middle age, presenting with a primary condi-

tion such as chronic duodenal ulceration or chronic pulmonary disease. Frequently, patients have vague abdominal discomfort, constipation or diarrhea with occasional signs of intestinal obstruction.

Radiographically, the gas-filled cysts appear on scout films as radiolucent areas, localized to the intestinal wall and casting longitudinal shadows parallel to the long axis of the intestine. Free air under the diaphragm, lacking the clinical picture of peritonitis, may alert one to the diagnosis of pneumatosis cystoides intestinalis. This free air is usually secondary to rupture of a subserosal cyst. After barium ingestion the cysts are more easily visualized on the margins of the contrast medium and are seen through the barium column. The cysts appear variable in size and tend to cluster.<sup>6</sup> The differential diagnosis includes: retroperitoneal abscess, fat necrosis, intramural tumors, ulcerative colitis and polyps. The first presentation may be spontaneous pneumoperitoneum seen as free air under the diaphragm. Pneumatosis must be differentiated from other causes of free air.<sup>6</sup>

#### **COURSE AND COMPLICATIONS**

In adults, most cases of pneumatosis cystoides intestinalis occur in the subserosal area of the jejunum and often appear and resolve without any symptoms at all, although many have recurrent spontaneous pneumoperitoneum. The most common complication of subserosal pneumatosis is recurrent pneumoperitoneum, a condition which is generally benign, the air in the peritoneum being absorbed without sequelae. Obstruction may also occur because of the mass effect of many cysts which are subserosal but are collectively large enough to compress the gut lumen. The cysts located in the submucosa are more symptomatic in that obstruction may occur because of 1) mass effect of a single submucosal cyst, 2) volvulus, and 3) adhesions associated with cysts. Submucosal cysts tend to compromise the blood supply and lead to ulceration, necrosis, bleeding, and rupture into the lumen or into the

peritoneal space. Intussusception is an uncommon complication. The most common form of pneumatosis in children is submucosal, subjecting these younger patients to the above complications in addition to excessive diarrhea and fluid and electrolyte imbalance. This is the most serious and rapidly fatal complication and must be immediately corrected.<sup>8,10,11</sup>

### TREATMENT

Since most cases are secondary to disease elsewhere, treatment in uncomplicated cases is that of the underlying disorder. In so-called primary pneumatosis or idiopathic pneumatosis surgery is indicated by the previously mentioned complications, provided there is no improvement after a period of clinical observation. In long standing pneumatoses, secondary or idiopathic, adhesions may accumulate and predispose to obstruction, volvulus or intussusception. Severely and chronically involved bowel is resected and adhesions are lysed. Uncomplicated cases are treated conservatively and observed for spontaneous disappearance. Most will improve untreated.



Figure 2. Numerous blebs can be seen on this barium enema film.

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# President's Pages



Today our Medical Profession stands at another cross-road. Seven years ago we opposed Medicare, but today we have had it for about seven years. This happened in spite of a study showing Physicians rated first among 20 occupational groups in terms of truthfulness, competence and trust. In the light of this, isn't it somewhat paradoxical that Physicians are first and Politicians are next to last in public esteem, that Politicians are burdening doctors with compulsory medical services which are financed by taxpayers who have little faith in Politicians. We must face the fact that we have Medicare, Medicaid, and now P.S.R.O. whether we like it or not. Before too long I am afraid we will also be confronted with a Medical Bureaucracy in our own state. What should we do as an Association?

I agree with the organizations and individuals in our Medical Association that P.S.R.O. is a bad Program that cannot accomplish its objectives of promoting effective, efficient, and economic delivery of health care services of proper quality. P.S.R.O. will entail further endless bureaucratic harassment of Practicing Physicians. P.S.R.O. will increase the cost of Medical Care. P.S.R.O. will not increase the quality of Medical Care.

In spite of this strong conviction, I must join with my colleagues and fellow officers of our National and State Association to get prepared to negotiate as best we can for our rights and for some assurance that we can help make some of the decisions instead of allowing the Secretary of H.E.W. to do this for us as the law states.

How can we strengthen our Association to meet this challenge?

I believe we can do this primarily in three ways: First, strengthen our Medical Foundation in every way possible, and I would recommend a more concentrated effort to keep our Physicians informed in the Counties and Districts of the work being carried on by the Foundation. Second, strengthen and encourage our Peer Review Committee because they must now become active as the Peer Review Committee of the Medical Foundation. These are dedicated men on this committee and we should give them an opportunity to lead us in establishing strong Peer Review on the local levels, in the Specialties, and finally to our State Peer Review Committee representing our Foundation. Third, give some concentrated study to our committees. Give our support at the state level to the organization and function of these committees. Eliminate those that are not necessary. Seek out men who are interested in serving on committees. I have been impressed with the many Physicians who would be willing to serve but have never been asked.

In May 1971 President Nixon spoke to the AMA in Atlantic City and challenged the doctors of this country to assume the role of leadership. First, to assume the Leadership in a National Campaign to shape this country's attitude towards drugs, and to educate America to the serious dangers of drug abuse. He also challenged the doctors to improve America's Health Care System. To design a system that would insure freedom of choice, dedication to quality, economic relief for our citizens and protection against catastrophic illness.

Our S.C.M.A. accepted that challenge and had our acceptance printed in leading newspapers in this State.

Let us now reaffirm our acceptance of this challenge and strive together to promote strength and unity in our Association as we seek to meet the challenges of the day.

Harold P. Hope, M. D.  
President-Elect



## 50 YEARS AGO

June, 1923

The quack Abrams treatment was enjoying enough vogue in the state to impel one county society to expel all its members who practiced with the little black box.



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*Prophylactically*, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

**CONTRAINDICATIONS:** Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

**PRECAUTION:** As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Complete literature available on request from Professional Services Dept. PML.

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## Typical characteristics of the "balanced" profile

- normal menses
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This "center spectrum" pill has had excellent user acceptance for over seven years.

## Ovulen®

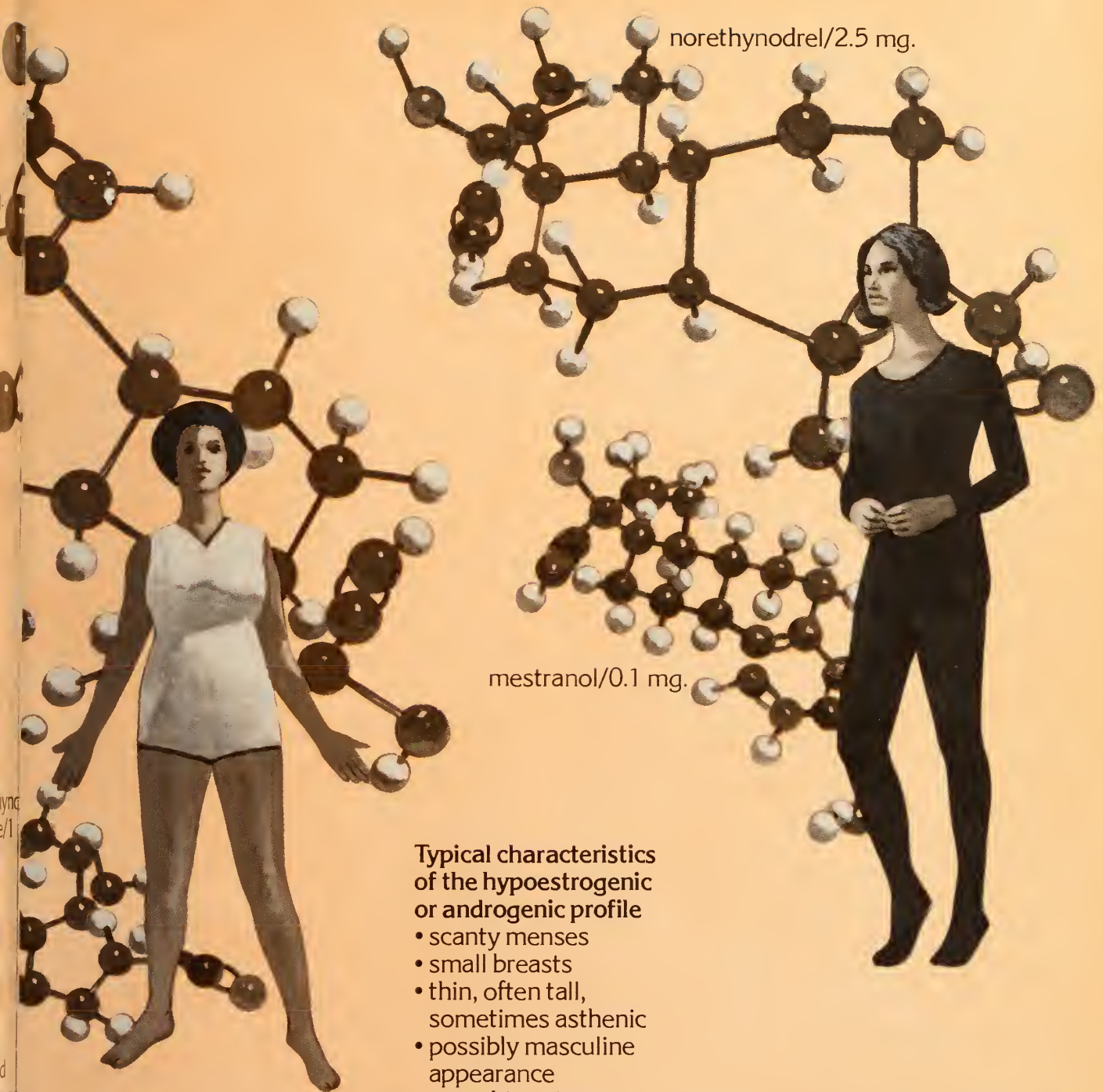
Available in 20-, 21- and 28-pill schedules  
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Each pink tablet in Ovulen-28® is a placebo containing no active ingredients.

for the majority of women...  
when centrally balanced  
activity is preferred

## Typical characteristics of the slightly hyper-estrogenic profile

- heavy flow
- large breasts, sometimes fibrotic; nipples well pigmented
- very feminine appearance, occasionally short
- premenstrual syndrome, fluid retention
- tendency to uterine fibroids
- high pyknotic index

This formulation, which has less estrogenic activity and a moderate progestogen dominance, may be a good beginning.



norethynodrel/2.5 mg.

mestranol/0.1 mg.

**Typical characteristics  
of the hypoestrogenic  
or androgenic profile**

- scanty menses
- small breasts
- thin, often tall,  
sometimes asthenic
- possibly masculine  
appearance
- acne, hirsutism
- low sexual motivation
- thin vaginal lining,  
tendency to vaginitis  
and dyspareunia

This pill has a relatively weak and unique\* progestogen with inherent estrogenicity. Clinically, just as in animal studies, it appears not to possess antiestrogenic and androgenic activity.

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dominance are preferred**



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Each white tablet contains:  
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Each pink tablet in Ovulen-28® and Demulen-28® is a placebo, containing no active ingredients.

**Actions**—Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Special note**—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication**—Ovulen and Demulen are indicated for oral contraception.

**Contraindications**—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings**—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain:<sup>1, 3</sup> leading to this conclusion, and one<sup>4</sup> in this country. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll<sup>3</sup> was about sevenfold, while Sartwell and associates<sup>4</sup> in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as nonusers. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions**—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations pre-existing uterine fibromyomas may increase in size. Because these agents may cause some degree of fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible

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influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives**—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T<sub>3</sub> uptake values; metyrapone test and pregnanediol determination.

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**Indication**—Enovid-E is indicated for oral contraception.

The *Special Note, Contraindications, Warnings, Precautions* and *Adverse Reactions* listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

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brand of norethynodrel with mestranol

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# Editorials

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## PSRO

### Four Letter Word or Last Great Hope???

Some fellow South Carolina physicians look upon PSRO as just another four letter word. Others perceive PSRO as our last great hope to keep control of medicine on the local level. Still others (sadly, perhaps the majority) couldn't care less. Some probably don't even know that PSRO stands for Professional Standards Review Organization. Mr. Douglass M. Richard, Regional Representative, HEW, Atlanta, recently spoke forcefully and directly to Council, SCMA, in Columbia about PSRO's. Most of the facts in this discussion are his. Most of the opinions are mine, but you had soon better start forming some opinions of your own.

One of the first facts established by Mr. Richard is that "the average practicing physician doesn't really know what in the hell is happening to him in this day and age." With this, I regretfully but completely agree. Let me tell you of some of the things that are *very* close to happening to you. And I do mean really happening to *you*. There is a serious proposal before the President to establish a *Federally-financed* office of consumer medical affairs in every state to investigate patient complaints about medical treatment and to make immediate settlement. How would you like that? Wouldn't an office inviting consumer complaints make the practice of medicine fun? There are several other frightening possibilities on the horizon — closer than I'd like to think.

The only alternative that is now apparent is the PSRO—the Professional Standards Review Organization.

Let us go over some of the things that PSRO means to us in South Carolina. As

of right now, there ain't no such thing as a PSRO—like the country boy said when he first saw a giraffe at the zoo, "There ain't no such animal." But there soon will be PSRO's and they will have a marked effect on your life and your medical practice. Make no mistake, PSRO will not touch *you*, but will hit you.

Here are some of the characteristics of a PSRO:

1. It will be established by physicians in a "service area," an area composed of 300 physicians or more. Probably South Carolina will have only one PSRO, but we could have three or even four.

2. Membership will be open to all licensed doctors of medicine and osteopathy.

PSRO's will be responsible for assuring within their service areas that all services for which payment is made by the government are:

1. Medically necessary.

2. Provided in accordance with medical standards.

It appears PSRO's are aimed at controlling only the quantity and the quality of medicine paid for by government funds. We wish these factors could be rigidly controlled in all areas of government spending. It appears at this point that PSRO's are not a real threat to us. They seem to be locally controlled and they seem to have desirable goals. But there is more to the story! Please read on.

If our PSRO does not operate in a timely, objective, effective manner at a reasonable cost, then the Secretary of HEW would be empowered and obligated to deal with PSRO's formed outside the medical community. Then State Departments, consumer groups, intermediaries or any such group could control the quantity

and quality of medicine.

In summary, Congress has found in seven years of experience with Medicare, Medicaid and the like that present arrangements between government, carriers, intermediaries and medicine are not adequate to control utilization and appropriateness, and services paid for by the government are not being properly appraised. Therefore, **CHANGES MUST BE MADE**. It appears that organized medicine will be given a chance to control these changes, but if we fail, others will control the changes. This is a responsibility for medicine and an opportunity for medicine. We must accept this responsibility and opportunity to control our affairs or we will lose control forever.

Let me end this call to responsibility by quoting directly the final two paragraphs of Mr. Richard's speech, because he says clearly and unmistakably what must be said, and exactly what I would like you to understand from my message.

"And if you have interpreted my message as strident rather than urgent, you will have misunderstood; and if your reaction to change is simply to mobilize your defenses against change; then, you

won't win the game.

"After all, this is the only game in town right now, as far as I can see."

E. E. K.

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#### **New Medical School Not First Priority?**

Perhaps a new medical school is not the first priority item for the South Carolina Medical Association to consider in our efforts to increase the medical talent in South Carolina. Printed elsewhere in this issue is a letter from Dr. P. W. Aycock, now at the University of Alabama Medical Center, detailing the frustrations of his efforts to practice internal medicine in South Carolina. He wanted to come to South Carolina, but got no help, only discouragement, from the S.C.M.A. One of the main reasons given for establishing a second medical school is to increase the number of doctors in South Carolina. It appears that our Association is not doing all it can in this direction. Until we are doing our utmost to attract doctors to South Carolina, we should not ask the taxpayers of our state to support a gigantic enterprise for this purpose. Let us get our own house in order first. Let us do it now!

E.E.K.

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### **LETTERS TO THE EDITOR**

"Dear Sir:

"As an introduction, let me say that I graduated in 1968 from the Medical College of South Carolina and currently am completing a fellowship in gastroenterology here at the University of Alabama Hospital and Clinics. I did an internship and a three-year medical residency here and in June, 1972, successfully took the American Board of Internal Medicine examination.

"I began looking for a place to locate next year in October, 1972, and I wrote the state medical societies in North Carolina, Virginia, and South Carolina. Within

ten days I heard from Virginia and North Carolina and they sent along lists of places in their states needing internists. They also kept me up-to-date on new openings and changes in the schedules of places needing people in my field.

"I felt that I owed South Carolina something since I attended the Medical College. After two months I had never heard from South Carolina and one night I called a fellow who was in my medical school class and who was still in Charleston in a pathology residency. He was coming to Columbia to practice and wanted me to try to come there. I told him about the lack of

interest expressed by South Carolina and he said he was going to inquire about it around Charleston. About one week later I got a one paragraph letter saying there were no listings for internists in South Carolina and that I would be notified if any opened up.

"I wrote this to you because I read your editorial in the February 1973, *Journal of the South Carolina Medical Association* in which you pointed out the poor percentage of M.D.'s trained in South Carolina who stay there. Also you pointed out the comparison between U.N.C., University of Virginia, and U.S.C. I thought about this also in deciding where to go and chose to go to North Carolina.

"I considered Lancaster but, after considering the towns and educational opportunities for my children, I chose North Carolina.

"The Medical Association of Lancaster County has pointed out to the State Medical Association the fact that letters of inquiry are either never answered or slowly answered, and, according to the man I had considered going in with there, the State Medical Association said this was not true.

"I can only say that since I have been here at the University of Alabama Medical Center (five years), I know of at least five people in Internal Medicine who have written and never received a reply. All these people had passed the ABIM and

were Board Certified—and in view of the fact that in the 1970 or 1971 Directory of Medical Specialists there were 110 Board Internists in South Carolina, or one per 23,545 people, I would think that a more active "campaign" would certainly be in order. No one here in internal medicine, except one in five years from South Carolina, has returned.

"The question of returning to South Carolina in medical practice makes Thomas Wolf's *You Can't Go Home Again* a reality—how can one find a place to go when 400 miles away without some help such as North Carolina offered.

"Sincerely,

"P. W. Aycock, M.D."

Dear Dr. Kimbrough:

"I am editing a book on renowned and notable physicians and their faith.

"I am interested in obtaining contributors who have a special knowledge of the faith and/or religion of one or more notable and outstanding physicians. I am considering such physicians as Sir William Osler and Sir William Fleming, however the notable physicians could still be alive.

"Anyone interested in this project, or who would suggest renowned physicians to write about may contact me at the following address:

Claude A. Frazier, M.D.  
4-C Doctor's Park  
Asheville, NC 28801."

**An Optometrist is not a doctor!**

**An Optometrist is not a doctor!**

**An Optometrist is not a doctor!**

On page 195 of the May 1973 issue of JSCMA, "Doctors in the News" page, there appeared an announcement concerning the relocation of an optometrist. This was an oversight on the part of your editor and I have repeated "An optometrist is not a doctor" at least 100 times.

While we are on the subject, the following definitions, approved by the American Association of Ophthalmology and supplied by Hal Crosswell, seem appropriate:

An Ophthalmologist is an M.D. who specializes in the care of the eye and all its related structures. He diagnoses and treats all visual problems and he evaluates the patient's eye problem in relation to the body as a whole. His examination is the medical evaluation and early diagnosis of ocular signs and symptoms of possible diseases elsewhere in the body.

An Optometrist is not a physician, he is not an M.D.

An Optician is a trained technician who fits eye-glasses to the face according to prescription.  
EEK



# ALCOHOLISM

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Administrator

## CRITICAL NUTRITIONAL PROBLEMS IN SOUTH CAROLINA\*

In 1967 Congress directed the HEW Department to survey the prevalence of malnutrition and related health problems in the United States. South Carolina was one of the 10 states selected to participate in this survey. The State Board of Health contracted to conduct the survey in South Carolina with the help of an advisory committee representing State agencies, colleges, and professional associations and I was project director for the South Carolina Survey which ran from November 1969 to April 1970. We made a random selection of the bottom 25 per cent of Census districts, according to income, making sure that metropolitan, semi-urban and rural counties were included. We thus picked 100 districts in 16 counties and proceeded to organize a survey field staff under Dr. Harry Ridgeley, a dentist who had directed the West Virginia survey.

Mappers visited each district and selected a segment of around 75 homes. Interviewers then visited every third house and, if the family was willing to cooperate, obtained information about the family and its nutrition habits and arranged for them to visit a clinic, usually at the neighborhood school, for tests of nutritional status. Transportation to the clinic was provided when needed. Three dollars was paid for each person who completed the survey procedure to compensate for their time and to encourage the poor to participate.

In the clinic, guidelines set for the National Nutrition Survey were followed in obtaining a medical history, medical and dental examinations, anthropometric measurements, wrist X-ray films, dietary

information, and blood and urine samples. Of 9,803 persons in the interviewed households, 4,776 or 49 per cent attended the clinics. Ninety-five per cent of the persons attending the clinics were black and 80 per cent had a family income less than \$4,000 a year so our findings essentially apply to poor black citizens of South Carolina and are not typical of the State as a whole.

With the exception of dental disease, physical examination did not often reveal definite evidence of dietary disease or nutritional deficiencies. Five per cent of persons over six had no teeth left and 25 per cent had visible cavities in four or more teeth. Twenty-one per cent had poor oral hygiene and 24 per cent had periodontal disease. Other findings in persons over six included 9 per cent with follicular hyperkeratosis on the arms, 3 per cent with dry, scaling skin, 4 per cent with enlarged thyroid, 4 per cent with cheilosis and 2 per cent with angular lesions or scars of the lips. Among children under six, 5 per cent had visible caries, 2½ per cent had poor oral hygiene, 2 per cent had follicular hyperkeratosis of the arms, 4 per cent had pot belly, 2 per cent had bowed legs, 4 per cent had winged scapulae, 3 per cent were classed skinny or fat, and 4 per cent as apathetic or irritable. 30 per cent of these children under six were reported to have passed worms and 31 per cent as eating unusual things.

Measurements of the triceps skinfold indicated that, above the age of 20, obesity was present in 38 per cent of black women, 33 per cent of white women, 8 per cent of black men and 10 per cent of white men. Between the ages of 12 and 20, obesity was found in 5 per cent of black girls, 8 per cent of white girls, 3 per cent of black boys and 2 per cent of white boys.

\*Presented at the Annual Meeting of the South Carolina Nutrition Committee, Columbia, S. C., April 5, 1973, by Malcolm U. Dantzler, M. D., Assistant State Health Officer, State Board of Health.



Only 3 per cent of decayed primary teeth had been filled for children under five and only 8 per cent for children in the 5-9 age group. The per cent of dental needs for filling or replacement of teeth which had not been met ranged from 81 per cent in the 5-9 age group to 100 per cent in those over 80 years old. Five year olds had 5 per cent of their decayed teeth filled; six year olds, 16 per cent; seven year olds, 6 per cent; 8 year olds, 5 per cent; and 9 year olds, 4 per cent. The average dental debris score for children 1 to 5 was 0.3; for children 5 to 9, 1.1; 10-14, 1.3; and 15-17, 1.4. This means that in the 15-17 age group, nearly half of the exposed tooth surfaces were covered by soft debris which fosters decay.

With respect to our biochemical findings, we all know that concentrations of blood and urine constituents can vary widely in a normal, healthy, well-fed population. The standards for the ten-state survey set a value to divide "acceptable" levels from those "less than acceptable." For most tests, another value was set to divide the "less than acceptable" into a "low" group and a "deficient" group. These boundary values varied with age, sex, and pregnancy. It must be pointed out that all persons classified as deficient in a blood or urine constituent would not exhibit clinical signs of deficiency. On the other hand, it can be assumed that persons with "deficient" or "low" values are more likely to develop disturbances related to nutrient deficiencies, especially if subjected to stress, such as illness, pregnancy, or additional dietary restrictions.

In the group we tested, the per cent of persons found to have "acceptable" levels in these biochemical tests were as follows: serum folates, 34 per cent; hematocrit, 58 per cent; red cell folates, 63 per cent; hemoglobin, 63 per cent; urinary riboflavin, 69 per cent; plasma vitamin A, 90 per cent; urinary thiamine, 92 per cent; serum albumin, 93 per cent; plasma carotene, 97 per cent; urinary iodine, 97 per cent; and serum vitamin C, 97 per cent. These findings strongly suggest that the

major nutritional deficiency problem in South Carolina is anemia related to the intake, absorption, and metabolism of iron and folic acid. Aside from riboflavin, other essential nutrients tested for were found to be at acceptable levels in 90 per cent or more of the persons tested.

The percentages classified in the "deficient" category were as follows: Serum Folate — 35.6 per cent; Red Cell Folate — 27.5 per cent; Hemoglobin — 8.2 per cent; Hematocrit — 6.1 per cent; Urinary Riboflavin — 5.1 per cent; Urinary Thiamine — 1 per cent; Plasma Vitamin A — 0.6 per cent; Serum Albumin 0.5 per cent; Serum Protein 0.4 per cent; Serum Vitamin C — 0.7 per cent; Urinary Iodine — 0.2 per cent; and Plasma Carotene — 0.0 per cent. I should add that in the entire ten states studied, there was very low correlation of hemoglobin with folate level or with serum iron or transferrin saturation.

We found less variation in biochemical levels with respect to the degree of poverty than might have been expected from the hue and cry about starvation and hunger among the poor. There was a slight tendency for hemoglobin to rise with family income. However, the biological differences between the sexes and age groups were much more marked. The child from one to two years old had the lowest hemoglobin regardless of family income. Males exceeded females after puberty in hemoglobin and hematocrit.

There was practically no relationship between the degree of poverty and mean serum protein level. Low serum albumin levels are not common in South Carolina, but occur more often in adults. Children under ten have fewer acceptable values of Vitamin A. The percentage of acceptable values of riboflavin is lower in the preschool years. Poverty is one factor in determining the levels of vitamin A and riboflavin.

It was found that the level of biochemical constituents is not directly proportionate to the education of the household head or the housewife. There was no noticeable difference in average height, weight, or



head circumference associated with the degree of poverty.

The diet of the 110 infants studied was notably deficient in iron as was that of the 923 adolescent children, the 46 pregnant women, and the 147 persons over 60. The adolescents' diet was also deficient in Niacin and calories. The diet of the pregnant women was also deficient in Calcium and protein. Poverty was not the major factor in determining the nutritional adequacy of household dietary intake. The number of persons with intake of selected nutrients less than 70 per cent of dietary standards on the day of the interview was iron 387, Niacin 272, calories 271, vitamin C 219, Vitamin A 194, Calcium 162, Riboflavin 142, Thiamine 131, and Protein 81.

As one might expect, inadequate nutrient intakes were found most often among the groups most vulnerable to malnutrition — pregnant women, infants, children, adolescents, and the aging.

The South Carolina Nutrition Survey results emphasize the need for better

nutrition and health education for persons of all income levels in the State. Priority should be given to pregnant women, babies, and children in order to break the cycle of poor growth and development. The object of nutrition education is to provide information so that each person will select the foods essential for his health and well-being. Even though the availability of food must be the first priority, our citizens need more than food and money to feed themselves properly. They need to know how to make appropriate food choices. The data from the South Carolina Nutritional Survey shows that without this knowledge, the existing nutritional deficiencies will persist. From a practical standpoint, it is more economical to eliminate nutritional deficiencies by enlightenment and enrichment of staple foods than by massive subsidization of improper food selection.

In conclusion, the three critical problems related to nutrition documented by the South Carolina Nutrition Survey were obesity, dental disease, and iron deficiency anemia.

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#### **Duke University Symposium**

The Department of Obstetrics and Gynecology, Duke University Medical Center is sponsoring the "1973 Walter L. Thomas Symposium on Gynecological Malignancy and Surgery". This symposium will be held at Duke University Medical Center, Durham, North Carolina on September 21 and 22, 1973. The two day symposium will be clinically oriented with the main emphasis on "Biological and Immunological Aspects of Gynecological Malignancies" and "Pelvic Infections". It is designed for the practitioners in Obstetrics and Gynecology.

Inquiries should be addressed to W. T. Creasman, M. D., Director of Gynecologic Oncology, Post Office Box 3079, Duke University Medical Center, Durham, North Carolina 27710.

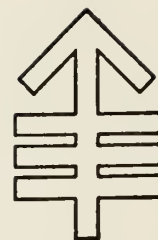
#### **Family Practice Review Course**

**September 24-29, 1973**

The Board Examinations of the American Academy of Family Physicians will be given on October 20-21, 1973. Therefore, The Division of Continuing Education of the Medical University of South Carolina has decided to offer again the Fourth Annual Family Practice Review Course for those who may have missed it in February or who may wish to attend again. Forty (40) AAFP credit hours will be given for attendance at this course.

Lectures will be presented at the Sheraton-Fort Sumter Hotel with visits to various units of the Medical University complex for tours and demonstrations. Tuition is \$140.00.

# CANCER TOPICS



PAUL H. O'BRIEN, M.D., F.A.C.S.\*

## Cancer Centers — Part II

Approximately fifteen months ago, a discussion of established Cancer Centers and policies for the development of new Cancer Centers was presented in this Journal. In the Nixon Cancer Bill of 1971, there was incorporated a recommendation that within the next three years, fifteen cancer centers be developed in the United States. After the development of the initial fifteen centers, it was hoped the program would continue until a major cancer center was available to all interested citizens of the United States. A conference was held in December of 1971 which was co-sponsored by the National Cancer Institute and the American Cancer Society. At that conference, it was recommended that institutions interested in such a center should apply for a planning grant. The role of such a cancer center at the Medical University of South Carolina was reviewed by the Administration, the Department Chairmen, and the Cancer Committee. It was felt that a cancer center might be a great addition to the Medical University of South Carolina and a planning grant should be requested.

Such a grant was submitted to the National Cancer Institute in May of 1972, which resulted in a site visit by the representatives of the NCI. They reviewed our

basic science potential, our clinical potential, and the degree of administrative support for such a proposed cancer center.

In November of 1972, the Medical University of South Carolina was awarded a planning grant to develop a cancer center. The Principal Investigator is Dr. Paul O'Brien and the Associate Scientific Directors are Dr. Glen Gale and Dr. Charles Graber, and the Administrative Assistant Project Director, Lt. Col. Louis Sordian.

Initiation of inventorying activities in the Medical University which might be incorporated into such a cancer center has begun. It was felt that a trip to Washington to meet the new National Chairman of the Cancer Center Program, Dr. John Yarboro, was appropriate. On the 30th of April, 1973, representatives from the Cancer Center Planning Grant of the Medical University of South Carolina, met at considerable length with Dr. John Yarboro, Dr. William Roberson, and Dr. Frank Mahoney, of the National Cancer Institute.

The long range goal of the National Cancer Institute remains to establish a multidisciplinary full treatment cancer center within the reach of all American citizens—the distance, depending upon terrain, to be between one hundred and one hundred fifty miles. The Cancer Center Grants to medical schools operate chiefly as a department budget for a new Department of Oncology. The new Department of Oncology should incorporate clinical as well as

\*Professor of Surgery, Department of Surgery, Medical University of South Carolina, Charleston, South Carolina.  
Director of Cancer Clinic, Medical University of South Carolina.

basic science personnel. The grant from the National Cancer Institute shall pay the salaries of the major investigators and active senior professors. The various component parts of the Cancer Center, however, are expected to acquire their own research funds through the classical method of grant requests and peer review funding. The established cancer centers or Departments of Oncology are encouraged to vigorously solicit State, Municipal, and private funds to increase their efficiency and thrust. The initial funding grants for various cancer centers are directly related to the aggregate sum of the cancer activities going on in the University. Cancer center grants have not exceeded the composite sum of dollars invested in Cancer Research, and have on occasion been considerably less. The average new grant has been approximately one million dollars. Much larger grants have been provided for the maintenance of established cancer centers.

At the Medical University of South Carolina, with current cancer research budgets approximating \$750,000, an initial Cancer Center grant of somewhere between \$500,000 and \$750,000 might be expected if the grant were properly constructed. In the grant there is contained some \$75,000 for new construction and/or alteration and reconditioning. The Medical University of South Carolina was encouraged to follow the various steps that have been outlined by the National Cancer Institute for developing a grant which would meet with their approval and eventual funding.

Dr. Frank Rauscher, Executive Director of the President's Cancer Act; Dr. Roberson, South Carolina's representative at the National Cancer Institute; and Dr. John Yarboro, Director of the Cancer Center Programs, feel that eventually such a Cancer Center for South Carolina can be obtained. The time table is uncertain. The Cancer Bill will need to be renewed in 1974. As mentioned earlier, there are to be

fifteen approved centers by 1974. There are now seven or eight approved centers. The approved centers are not exactly what we might call "new centers". The "new centers" include: Memorial Sloan Kettering; Columbia Presbyterian, New York; Boston Children's; Roswell Park; University of California at San Francisco; University of Southern California in Los Angeles; the University of California in Los Angeles (better known as U.C.L.A.); and last, but not least, M. D. Anderson.

With the cutback of many other forms of support, it is reasonable to make sure that our ongoing cancer centers can maintain themselves prior to the construction of new cancer centers. These centers have had funding promised for an aggregate budget in excess of one hundred million dollars. We were told that the National Cancer Institute has available cash for funding some 29 million dollars. The peculiarities of budget approval and administrative release have made shambles of the original time table.

An anonymous, if outspoken, investigator at the National Cancer Institute said that as the Cancer Program reported directly to the President, naturally it reported directly to his very famous erstwhile aides-de-camp Haldeman and Ehrlichman. Our anonymous observer suggested that we might do better in our Cancer Program if in the future we could avoid reporting to such vigorous Christian Scientists.

We are carrying on with our planning, and we hope to be prepared to submit a grant in approximately eighteen months. This will then be site visited and, hopefully, approved. Possibly by that time the original monies allocated to the Cancer Center Program could be restored. We feel that such a Cancer Center would benefit the scientific reputation of the Medical University of South Carolina, the students, house officers, and provide a consulting resource for the practitioner.





## **SOUTH CAROLINA REGIONAL MEDICAL PROGRAM**

**VINCE MOSELEY, M.D.**  
Coordinator, South Carolina

### **Eight RMP Health Projects To Continue Beyond June 30**

Slated to terminate June 30, 1973 due to a Presidential budget cut, the South Carolina Regional Medical Program has received funds to continue eight operational projects and a skeleton staff until February 14, 1974.

Regional Medical Programs Service, a Division of the Health Services and Mental Health Administration, HEW, Washington, has notified Dr. Vince Moseley, coordinator for the S. C. Regional Medical Program, of this action.

Dr. Moseley said that the eight projects to be continued were selected by the local Regional Advisory Group on the basis of assurances received from their sponsoring organization that, if given additional time, the projects are guaranteed to be funded from other sources and will continue to serve the people of the state.

SCRMP funds for the remainder of the current 45 SCRMP operational projects, planning studies and contracts underway across the state will cease June 30. Some of these found local sources for continuation.

Dr. Moseley stated that SCRMP will receive \$303,128 to continue the eight projects until February 1974 and to maintain a small supervisory staff.

Projects to continue are as follows (shown are title, sponsor, director's name and brief summary):

**CAROLINAS HOSPITAL ENGINEERING SUPPORT SERVICE** — Medical University of S. C., Thomas S. Hargest, to train engineers and technicians to perform bio-engineering services and then place trainees in area team assignments cover-

ing groups of institutions.

**A PROGRAM FOR CONTINUING EDUCATION FOR HEALTH PROFESSIONALS, TECHNICAL AND OCCUPATIONAL ALLIED HEALTH PERSONNEL** — Division of Continuing Education of the Medical University of S. C., to improve and expand existing Continuing Education opportunities in the health science, professional, technical, and occupational groups throughout the region and to develop new programs.

**STATEWIDE EDUCATION PROGRAM IN NUCLEAR MEDICINE** — Self Memorial Hospital, Greenwood, S. C., Dr. William A. Klauber, to provide an ongoing Education Program in Nuclear Medicine for physicians, nurses and allied health personnel.

**IMPLEMENTATION PROGRAM OF HEALTH AND STROKE PROJECTS IN S. C.** — S. C. Heart Association, John Hughes, to coordinate the several projects planned by the S. C. Heart Association Task Force with all major organizations, institutions and agencies working in the area of heart disease and stroke control in S. C.

**STATEWIDE LABORATORY PERSONNEL REFRESHER TRAINING** — S. C. State Board of Health, Dr. Arthur DiSalvo, to establish a statewide program to up-grade the diagnostic acumen of lab technicians in S. C.

**GREENWOOD AREA REGIONALIZATION OF CORONARY CARE** — Self Memorial Hospital, Greenwood, Kenneth Flinchum, provides linkages for EKG coronary monitoring between major and outlying hospitals.

(over)

**RENAL DIALYSIS TRAINING AND TRANSPLANT PROGRAM** Medical University of S. C., Dr. Arthur V. Williams, to expand statewide program for patient care in renal diseases, with emphasis on patient training in home dialysis and support of renal transplant services.

**CHILDREN'S CARDIO-RESPIRATORY DISEASE PROJECT** — Medical University of S. C., Charleston. Dr. Arno Hohn, to expand and coordinate detection, diagnostic and treatment services in children's heart and respiratory disease.

Charles R. Wyrosdick  
Director of Communications

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## OPPORTUNITIES

Thriving, established practice available due to death of physician. Located in Batesburg, S. C. (population Metropolitan area 6,300, Trade area 20,000). 32 miles South of Columbia, S. C. on Highway #1. Office equipped with two waiting rooms, six examining rooms, laboratory, nurses station, consultation rooms (2), two full baths, small kitchen, central heat and central air-conditioning, adequate parking. Equipment includes EKG, fluroscope, business office equipment, Thermofax. Examining rooms and consultation rooms equipped. Adequate location for either one or two physicians. No time required to build-up practice. Will rent or consider leasing building. Three doctors in community but need is great. If interested please contact:

Mrs. Marvin H. McLin  
P. O. Box 149  
Batesburg, South Carolina

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**WANTED:** Full-time or part-time Medical Consultants for the Disability Deter-

mination Office of the South Carolina Vocational Rehabilitation Department in Greenville and Charleston regions. Desirable working conditions with state employees' benefits. If interested, please contact Mary T. Tobin, M.D., P. O. Box 4557, Columbia, South Carolina 29240 or call collect 758-1521.

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**Medical Director** — Multi-plant textile corporation seeks an Industrial Physician to direct its progressive corporate-wide medical program involving 12,000 employees. His office and Central Clinic would be located in the Corporate Offices in the fresh-air environment of Eden, North Carolina. The staff includes supervisors and personnel in Nursing Services and Medical Technician Services all carefully selected and well trained. Lakes, mountains, and metropolitan areas nearby.

Contact: Jack T. Carter, Manager, Management Employment and Development, Fieldcrest Mills, Inc., Eden, North Carolina 27288. Phone: (919) 623-2123.

## ADVISORY COUNCIL OF EMERGENCY MEDICAL SERVICES OF THE SOUTH CAROLINA BOARD OF HEALTH (Origins, Functions, Accomplishments)

In South Carolina a confusing assortment of committees, councils, et cetera, are active in the field of emergency medical services. This high level of activity has been going on for about ten years now. Several years ago the EMS Committee of the SCMA and the American College of Surgeons Committee on Trauma felt the need for a central coordinating agency in this field. All bodies concerned were brought together informally. The Hospital Association, funeral directors, rescue organizations, et cetera, met and decided that the State Board of Health's Division of Emergency Medical Services was the best place. The State Board of Health then set up the council now under discussion. Representatives from interested groups, including the South Carolina Medical Association and the Trauma Committee of the ACS, Dr. Max Rittenbury as Chairman, were appointed. Representatives from the EMS division of the State Board of Health have participated in the meetings, handled the arrangements and done much basic work. Meetings have been held monthly. Any and all aspects of emergency medical care have been brought up and discussed. Then, recommendations by this Council have been made.

Recently, Governor West has projected spending \$3.25 million on emergency medical services and plans in the state are moving at a very rapid rate. The Medical Association's representative on the Council thought it in order to get before the physicians a brief summary of what has been accomplished by each sub-committee of the Council up until February, 1973:

### **Committee on Communications and Organization**

**Elisabeth M. Alford, Chairman (With S. C. Hospital Association)**

The committees activities included through 1972:

Conducted ten regional workshops, one in each of the State's Comprehensive Health Planning Districts, to encourage the formation of community emergency medical services councils and to acquaint residents of each district with emergency medical services needs in their area.

Endorsement of a communications concept linking hospital to ambulance and regional hospitals to smaller hospitals within a district.

Endorsement of the concept of classification of hospital emergency departments according to staffing and capability and recommendation that criteria for classification of emergency departments be developed jointly by the South Carolina Hospital Association and the Health Facilities Section of the South Carolina State Board of Health. (This work has been in progress for approximately a year and is nearing completion.)

Recommended that the South Carolina Hospital Association undertake a study of the financial requirements of hospital emergency departments. (Study of regional hospital emergency department financing was published December, 1972.)

Recommended that hospital emergency departments be resurveyed. (Work underway, being conducted as part of the comprehensive EMS planning group activity.)

### **Report of the Subcommittee on Equipment Standards**

#### **EMS Advisory Council**

**Edmund R. Taylor, M. D., Chairman  
(S. C. Medical Association)**

In brief, this committee studied ambulance design, equipment, and standards. With the help of the Emergency Care Institute of Philadelphia which specializes in testing emergency medical service equipment, this committee came out with specific recommendations as to ambulance



design and equipment. These recommendations were sent to hospitals and organizations throughout the state operating in this field and are available upon request.

Many of these items for emergency medical care are, likewise, applicable to equipment in emergency rooms and throughout hospitals. Before this study, it was extremely difficult for individuals, companies and hospitals to find out whether the equipment under consideration was good, bad or indifferent.

#### **Subcommittee on Training Report**

**Wayne Vestal, (General Manager of Carolina Ambulance, Inc., Chairman)**

*Calendar Year 1971*

##### **The Advisory Council**

- a. Approved the DOT Emergency Medical Technicians curriculum as the curriculum for EMT in South Carolina.
- b. Added lesson 5A to the curriculum (Cardio Pulmonary Resuscitation loading procedures)
- c. Recommended the State Board of Health certify all EMT graduates.
- d. Approved the EMT pilot course in Lancaster, S. C.
- e. In June 1971 endorsed the S. C. Hospital Association EMT project to train EMT's. The project included the following:
  1. Classes in one of each 10 districts.
  2. Development of video tape portions of physicians' lectures relative to EMT course.
  3. Development of test and testing procedures.
  4. First class of September 13, 1971, last class June 12, 1972.

##### **Division of Emergency Health**

- a. Certified approximately 50 EMT's in 1971 and approximately 500 ambulance attendants.

*Calendar Year 1972*

##### **The Advisory Council**

- a. Assisted in designing and recommended approval of the EMT Arm Patch.
- b. Assisted in determining renewal procedures.

- c. Reviewed all EMT Course applications and recommended approval based on study and individual recommendations for approvment.
- d. Recommended the concept that all EMT training be done within the Department of Education with supervisory control resting with the State Board of Health.

##### **Division of Emergency Health**

- a. Coordinated with the Department of Technical Education a project for \$42,000 to provide a basic kit of medical equipment for each TEC Center to teach the EMT Course.
- b. Coordinated with RMP a project to purchase three (3) additional sets of equipment to lend to VOC schools in areas where TEC schools are not readily available.
- c. Coordinated with the Highway Safety Department a project to train instructors.
- d. Through independent courses, SCHA courses and TEC courses, trained approximately 616 EMT's.
- e. Trained approximately 25 instructors and 15 assistant instructors.
- f. Coordinated and have on-going courses in six TEC Centers and efforts underway for four others after January 1, 1973.
- g. Provided renewal certificates to all EMT's and ambulance attendants whose certificate was one year old.

*Calendar Year 1972 to date*

**Advisory Council — Subcommittee on Training —** Continues to monitor all course applications.

##### **Division of Emergency Health**

- a. Continues to train and certify instructors — 36 instructors, 20 assistant instructors.
- b. Continues to coordinate with TEC Centers the establishment of on-going EMT Course — 3 additional TEC Centers started bringing the total to nine (9).

The combined training program of the South Carolina Hospital association and the South Carolina State Board of Health

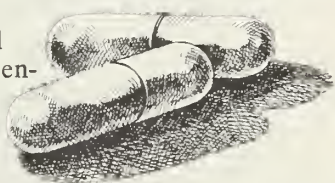
**Because you  
practice  
medicine in the  
Palmetto State...**



You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®

### Helps reduce anxiety-related G.I. symptoms

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

### Patient-oriented dosage — up to 8 capsules daily in divided doses

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

To help relieve anxiety-linked symptoms in gastritis and duodenitis

adjunctive  
**Librax®** 

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, New Jersey 07110



have accomplished the following as of February 15, 1973:

*Training:*

<i>E. M. T.'s</i>	710
<i>E. M. T. Instructors</i>	36
<i>E. M. T. Assistant Instructors</i>	20

### Subcommittee Report on Communications

Dr. James Clark, Chairman,  
(Clemson University)

Subcommittee on Communications, after a lot of detail study from the various other States within the Union, adopted what was commonly known as the "Hear Concept", Hospital Emergency Auxiliary Radio System. This system was then labeled "The Merc System", so that it would not conflict with private enterprise. "The Merc System" spells out Medical Emergency Radio Communications. The "Hear System" is a Motorola company term. This Merc System was adopted on a statewide basis and all of the various hospitals and ambulance services throughout the State were advised accordingly. The concept was further included in the Emergency Medical Services Comprehensive State Plan.

The Merc System as known throughout the State operates on 155.34 MHz and 155.280 MHz, thus providing for communications between the hospitals and ambulances and between major hospitals.

All of the projects that were reviewed by the Emergency Medical Services Advisory Council "Subcommittee on Training" were looked at in detail as far as the communications were concerned. Prior to approving any of the project proposals the communications aspect was re-worded so as to include the Merc System in the project. In other words all the communications projects that were approved by the Advisory Council included a system whereby the hospitals and ambulances would be communicating on 155.34 MHz and 155.280 MHz.

Because of the complications involved in providing complete Emergency Medical Service Communications Systems in each of the communities that would relate and

# Rondomycin<sup>®</sup>

## (methacycline HCl)

**CONTRAINDICATIONS:** Hypersensitivity to any of the tetracyclines.

**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated. Usage in pregnancy.** (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in premature given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The antianabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal diseases, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS:** Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

**Renal toxicity:** rise in BUN, apparently dose related (See **WARNINGS**).

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE:** Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, Rondomycin (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of Rondomycin (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

**SUPPLIED:** Rondomycin (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 12/71



WALLACE PHARMACEUTICALS  
CRANBURY, NEW JERSEY 08512



**When the focus is on bronchitis due to  
susceptible strains of *H. influenzae* and pneumococci\***

**Rondomycin<sup>®</sup> 300** mg.  
**[methacycline HCl]** Capsules

**Delivers from the very first dose:**

**Studies show that after the first dose serum levels rapidly rise above  
minimum *in vitro* inhibitory concentrations**

\*Since many strains are known to be resistant, routine sensitivity testing is recommended.



# The Rx that says "Relax"

**BUTISOL Sodium provides highly predictable sedative effect:** minor dosage adjustments are usually all that's needed to produce the desired degree of sedation. (With 3 dosage forms and 4 strengths to make adjustments easy.)

**BUTISOL Sodium offers prompt, smooth, relatively non-cumulative action:** begins to work within 30 minutes...yet, because of its intermediate rate of metabolism, generally has neither a "roller-coaster" nor a "hangover" effect.

**BUTISOL Sodium is remarkably well tolerated:** a 30-year safety record assures you that there is little likelihood of unexpected reactions.

**BUTISOL Sodium saves your patients money:** costs less than half as much as most commonly prescribed sedative tranquilizers.\*

These are four good reasons for prescribing BUTISOL Sodium for the many patients who need to have the pace set just a little slower. Its gentle daytime sedative action is often all that's needed to help the usually well-adjusted patient cope with temporary stress.

\*Based on surveys of average daily prescription costs.



**Butisol** SODIUM®  
(SODIUM BUTABARBITAL)

**Contraindications:** Porphyria, sensitivity to barbiturates, or susceptibility to dependence on sedative-hypnotics. **Warning:** May be habit forming. **Precautions:** Exercise caution in: moderate to severe hepatic disease; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants because of combined effects. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and gastrointestinal disturbances are seldom seen. **Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg. **Available as:** Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

**McNEIL**

McNeil Laboratories, Inc., Fort Washington, Pa. 19034





**With  
vulvovaginal  
candidiasis  
she can't wait  
for relief...**

A 14-day therapy\*  
that provides prompt relief

**Composition:** SPOROSTACIN Cream contains chlordantoin 1% and benzalkonium chloride 0.05%, compounded with glyceryl monostearate, phosphoric acid, cetyl alcohol 2%, stearic acid, peanut oil, ionol, catanac, glycerin, benzoic acid and water.

**\*Indication**

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indication as follows:

"Probably" effective: For the treatment of vulvovaginal candidiasis. Final classification of the less-than-effective indication requires further investigation.



**with  
Sporostacin  
Cream,  
in many cases,  
she doesn't  
have to.**

# Sporostacin<sup>Trademark</sup> Cream

(chlordantoin 1% and benzalkonium chloride 0.05%)

**Contraindications:** None known.

**Precautions:** Cases of sensitization and irritation have been reported. When noted the drug should be discontinued.

**Dosage:** One applicatorful intravaginally twice daily for 14 days. Course of therapy may be repeated if necessary.

**Supplied:** SPOROSTACIN Cream is available in 3.35 oz. (95g) tubes with the ORTHO<sup>†</sup> Measured-Dose Applicator.



Ortho Pharmaceutical Corporation, Raritan, New Jersey 08869

# Now form follows function

Only **Candeptin** (candicidin) gives you this unique form... a soft gelatin capsule—highly effective therapy for all your vaginal moniliasis patients



**CANDEPTIN® (candicidin) VAGELETTES™ Vaginal Capsules**... a unique dosage form... anatomically and therapeutically designed to extend flexibility in the treatment of vaginal moniliasis.

#### **Virtually unlimited application**

CANDEPTIN VAGELETTES Vaginal Capsules provide the specific high potency antimicrobial agent, candicidin, in a soft gelatin capsule—the shape designed with your patient in mind. It permits easy manual insertion without the need for an applicator or inserter... of particular value for the pregnant patient... for *intravaginal use*. By cutting off the tip of the narrow soft end, the contents can be extruded through an intact hymen for *intravaginal use*. And it is readily adaptable to *topical application* for labial involvement, and/or *intravaginal use* to treat mucosal infection.

#### **CANDEPTIN (candicidin) provides:**

##### **Rapid results**

Prompt, symptomatic relief—itching, burning, and discharge subside in 48-72 hours.<sup>1</sup>

Soothing, miscible ointment permits complete contact with affected tissue.

Usually cures in a single 14-day course of therapy.<sup>2,3,4</sup>

##### **Safe**

Exact dosage assured.<sup>2,3</sup>

No side effects, clinical reports of irritation or sensitization extremely rare.

##### **Convenience**

Easy to use intravaginally and/or topically for labial involvement.

Encourages patient acceptance and cooperation.

Therapy is easy to start in your office.

##### **Clinical proof of potency**

CANDEPTIN (candicidin) is significantly more potent *in vitro* than nystatin.<sup>5</sup> CANDEPTIN Vaginal Ointment and Tablets have a clinical record of cure rates of 90% and more in pregnant and non-pregnant patients.<sup>1,4,6</sup> In recent studies on CANDEPTIN VAGELETTES Vaginal Capsules, involving both gravid and non-gravid patients, a 100% culture-confirmed cure rate was achieved with a single 14-day course of therapy.<sup>2,3</sup>

##### **Unique**

**CANDEPTIN® (candicidin)**  
**VAGELETTES™ Vaginal Capsules**



**Description:** CANDEPTIN (candidin) Vaginal Ointment contains a dispersion of candidin powder equivalent to 0.6 mg. per gm. or 0.06% Candidin activity in U.S.P. petrolatum. 3 mg. of Candidin is contained in 5 gm. of ointment or one applicatorful. CANDEPTIN Vaginal Tablets contain Candidin powder equivalent to 3 mg. (0.3%) Candidin activity dispersed in starch, lactose and magnesium stearate. CANDEPTIN VAGELETES Vaginal Capsules contain 3 mg. of Candidin activity dispersed in 5 gm. U.S.P. petrolatum.

**Action:** CANDEPTIN Vaginal Ointment, Vaginal Tablets, and VAGELETES Vaginal Capsules possess anti-monilial activity.

**Indications:** Vaginitis due to *Candida albicans* and other *Candida* species.

**Contraindications:** Contraindicated for patients known to be sensitive to any of its components. During pregnancy manual Tablet or VAGELETES Capsule insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.

**Caution:** During treatment it is recommended that the patient refrain from sexual intercourse or the husband wear a condom to avoid re-infection.

**Adverse Reaction:** Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment, Vaginal Tablets or VAGELETES Vaginal Capsules have been extremely rare.

**Dosage:** One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet or one VAGELETES Vaginal Capsule is inserted high in the vagina twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.

**Available Dosage Forms:** CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil with inserter—enough for a full course of treatment. CANDEPTIN VAGELETES Vaginal Capsules are packaged in boxes of 14 (14-day regimen requires 2 boxes.)

Store under refrigeration to insure full potency.

Federal law prohibits dispensing without prescription.

**References:** 1. Olsen, J.R. *Journal-Lancet* 85 287 (July) 1965. 2. Giorlando, S.W. *Ob/Gyn Dig.* 13:32 (Sept.) 1971. 3. Decker, A. *Case Reports on File, Medical Department, Julius Schmid* 4. Giorlando, S.W., Torres, J.F., and Muscillo, G.: *Am. J. Obst. & Gynec.* 90: 370 (Oct. 1) 1964. 5. Lechevalier, H. *Antibiotics Annual 1959-1960*. New York, Antibiotics Inc., 1960. pp. 614-618. 6. Friedel, H.J. *Maryland M.J.*, 15:36 (Feb.) 1966.



**Julius Schmid Pharmaceuticals**  
423 West 55th Street  
New York, New York 10019

## CANDEPTIN® (candidin)

### Vaginal Tablets

### Vaginal Ointment

### and VAGELETES™ Vaginal Capsules

become a Comprehensive Emergency Medical Communications System on a statewide basis, it was necessary to conduct a definitive study to insure the compatibility of one piece of equipment with the other and also to insure that there would not be a bleeding over or blanketing out of one area because of a strong transmission from another. The problems and complications became tremendous and more than could be administered on the State Board of Health until some definitive technical knowledge was available. It was the recommendation of the Subcommittee on Training that a definitive study be made of statewide EMS communications and that this study be comprehensive and in detail so as to provide the State Board of Health with such information as necessary to up-grade each and every one of the communication networks and provide a statewide Comprehensive EMS Communications System. This study has not yet commenced, however, a contract proposal is in the offering from Clemson University. This particular proposal was submitted to the State Board of Health, however, was returned by the State Board of Health and the Governor's Highway Safety Committee Office for more definitive information as to what the contract proposed to do. It was the subcommittee's contention that such a contract should be definitive for each and every phase of the communications system in the State, so as to provide such information as height of antennas, wattage and outputs of particular transmitters and receivers and how these transmitters and receivers would tie into the communications system of the police and sheriffs' department as well as the civil defense and hospital systems. It is hoped that the contract for the communications study will be let soon and that the study will be completed prior to June 30, 1973.

All of the communications projects to date have required frequencies on 155.34 and 155.280, which should in the long run make changes to a statewide system reasonably inexpensive. This concludes the



report on the Subcommittee of Communications until such time as the proposal has been received, evaluated and approved.

#### **Project Review Subcommittee**

This committee was composed of two persons and was formed for the primary purpose of reviewing project applications submitted by political subdivisions. This review of each project was designed to enhance the clarity; uniformity; completeness and consistent with needs of the community. Major General Frank Bowen was named Chairman of this subcommittee since his position, as State Coordinator of the Highway Safety Program, provided him a great deal more project coordination and information relative funding activities.

#### **Legislative Affairs Subcommittee**

This subcommittee was chaired by the late Honorable Edmund G. Grant, South Carolina House of Representatives, who acted as a committee of one to assist in preparation and submission of proposed legislation affecting EMS activities in South Carolina. He sponsored the present Ambulance Law (Act 497 of 1971) and also was Liaison Officer for the EMS Advisory Council. In this manner the Council was kept abreast of all legislative activities which had a bearing on Emergency Medical Service problems, procedures and activities.

#### **Public Information Subcommittee**

This subcommittee was chaired by Mr. Phillip Morris, Executive Director of the South Carolina Safety Council. The Safety Council has many inroads to the news media, radio and TV networks and is the logical outlet for publicity requirements of the Council.

Submitted by  
Edmund R. Taylor, M. D.,  
Representative from S.C.M.A.

#### **PRESCRIBING INFORMATION** **Antiminth (pyrantel pamoate) Oral Suspension**

**Actions.** Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13 µg/ml.) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

**Indications.** For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

**Warnings. Usage in Pregnancy:** Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

**Precautions.** Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

**Adverse Reactions.** The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

**Dosage and Administration. Children and Adults:** Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg. of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lb. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

**How Supplied.** Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg. pyrantel base per ml., supplied in 60 cc. bottles.

**ROERIG**   
A division of Pfizer Pharmaceuticals  
New York, New York 10017

# Clean Sweep



## with a single dose of Antiminth

(pyrantel pamoate) ORAL SUSPENSION

Highly effective against pinworm and roundworm

Non-staining to teeth or oral mucosa on ingestion, to stools, clothing, linen

Simple dosage with a single-dose regimen: 1 cc. per 10-lb. body weight (1 tsp./50 lb.; maximum dose, 4 tsp.)

Well-tolerated, based on clinical studies\*

Pleasant-tasting, easy-to-take, caramel-flavored oral suspension

Economical, because one prescription can treat the entire family

**ROERIG** 

A division of Pfizer Pharmaceuticals  
New York, New York 10017

# ANTIMINTH<sup>®</sup>

(pyrantel pamoate)

equivalent to 50 mg. pyrantel/ml.

ORAL SUSPENSION

While Antiminth is highly effective against pinworms and roundworms, the illustration is not meant to imply 100% efficacy.  
\*Data on file at Roerig.

Please see prescribing information on facing page.

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# THE RECORDER

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OF THE

COLUMBIA MEDICAL SOCIETY OF RICHLAND COUNTY

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VOLUME XVIII

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NUMBER 9

## DANGERS OF OXYGEN THERAPY

The dangers of explosion or fire associated with the use of oxygen in an open system have been too thoroughly publicized while more subtle and more frequent lethal effects from such therapy have not received the notoriety that they should. Fire department ordinances have been passed, and are in effect, which adequately deal with the fire-promoting qualities of oxygen. The more subtle effect, death by carbon-dioxide narcosis, has been reported clinically and experimentally in medical literature but for some reason has apparently gone, for the most part, unnoticed.

This matter furnishes yet another example of the well-known therapeutic paradox in medicine. For it is in just those patients whose life may be saved by the judicious administration of oxygen, patients with chronic severe lung disease, that the potentially fatal result, carbon-dioxide narcosis, may appear.

For an understanding of this condition it is necessary to review certain well-known facts concerning the physiology of respiration. In the normal human respiration is controlled in large measure by the  $\text{CO}_2$  content of arterial blood. The respiratory center in the medulla is, normally, extraordinarily sensitive to the slightest change in arterial  $\text{CO}_2$  tension, responding to a rise almost imperceptible by gas-analytical methods with a nervous discharge which institutes the muscular contractions resulting in aeration of the lungs. The secondary regulators of respiration, aortic and carotid bodies, etc., respond primarily to changes in the arterial *oxygen* tension, which under normal conditions never reaches low enough levels to stimulate such regulators. Carbon dioxide is, from a pharmacological standpoint, an anaesthetic gas and such properties can be demonstrated in experimental animals. If  $\text{CO}_2$  is administered to such animals in high enough concentrations and for a long enough time to "overwhelm" the respiratory stimulation which attempts to "blow off" the excess  $\text{CO}_2$ , anaesthesia with its typical stages, the last being death, will be seen. As with most inhalant anaesthetics, if administration of the gas is stopped short of death of the animal the animal revives none the worse for it. With certain exceptions, the same train of events may occur if a patient with chronic severe lung disease is given *oxygen* in high enough concentrations long enough. Chronic lung disease develops slowly and insidiously over a period of years allowing ample time for the body to compensate for certain changes in the internal milieu which such loss of ventilatory capacity brings about. One of these changes is an extremely slow but steady increase in  $\text{CO}_2$  content of the blood as inadequate amounts are "blown off" through the inadequate pulmonary ventilatory surface. One of the results of this increased  $\text{CO}_2$  content is an excretion of anions chlorides in particular with the resultant well-known "compensated respiratory acidosis." This keeps the pH of the blood within normal limits but the excess  $\text{CO}_2$  remains. At first such an excess stimulates the medullary respiratory center with resultant tachypnea. As time passes, however, and the increased respiratory rate is



unable to get rid of the excess  $\text{CO}_2$  the body does as it does so often in disease. What it can't get rid of it attempts to live with. The only way this can be done in comfort is for the respiratory center to become less sensitive to  $\text{CO}_2$  tension and this it does. The result is that now respiration becomes more and more dependent upon the "second line" of respirator stimulators. These respond to the oxygen tension of arterial blood but, when compared to the normal medullary control, are relatively insensitive, that is, rather marked changes in arterial  $\text{O}_2$  tension are necessary to stimulate them. The important thing, here, however, is that respiration comes to be more and more dependent upon the *oxygen* content of the blood. The insensitivity of this control is reflected by the patients we have all seen with severe chronic lung disease who have cyanosis but are in no particular distress.

If then, we take such a patient and administer oxygen by any route one of the first results of such therapy will be that the respiratory rate will decrease as the oxygen level, which is the stimulus for respiration, increases. However, a secondary result of this slowed respiration will be a *sudden* increase in  $\text{CO}_2$  content as less may be blown off with slower respirations. This sudden increase in  $\text{CO}_2$  tension usually produces a transitory and short-lived increase in respiratory activity which most commonly occurs several hours after beginning  $\text{O}_2$  administration. All too frequently, however, this will be construed to indicate an increased need for *oxygen* and the amount and/or route of administration will be changed. This results in further slowing of respiration, a greater increase in  $\text{CO}_2$  content, perhaps again respiratory stimulation, though usually not, and we have a perfect "vicious cycle" established. Over the next few hours the  $\text{CO}_2$  content continues to increase and slowly the patient progresses through the stages of anaesthesia, the first usually being called "delirium," thence to coma and, finally, death.

At any time short of the final result the inevitable progression may be halted by stopping oxygen therapy which reverses, in toto, the above chain of events. Though such an effect is more apt to be seen in those patients with obvious severe lung disease, the same situation may obtain in a person with unrecognized chronic lung disease if the oxygen is continued for a sufficiently long period of time. Certain of those writing on this subject have stated that no one over the age of fifty should be given continuous oxygen therapy, particularly if they are unconscious as from a cerebro-vascular accident, head injuries or any cause of coma. It is recommended that in all such cases oxygen should be given intermittently, that is, on six hours, off one, or some such schedule. Likewise, any person who has at first experienced benefit from oxygen therapy and while still receiving it begins to show respiratory distress should be carefully examined to determine whether they actually need more oxygen, as evidenced particularly by a return of cyanosis or if they are in the early stages of carbon-dioxide narcosis, this being evidenced by lack of cyanosis, in fact, at times, a flushed appearance, and evidence of delirium which is practically never due to oxygen lack unless there is concomitant cyanosis. The delirium may not be grossly evident and may only be uncovered by questioning the patient and finding "minor" signs such as disorientation and confusion.

The importance of a thorough knowledge of this matter is evident to all of us when we consider the frequency with which oxygen is administered both on a therapeutic and prophylactic basis and most commonly to those persons who are in the age group most apt to have evident or incipient chronic lung disease.

C. R. H.

---

This lead article, almost 20 years old but still good advice, is presented at the request of Norman O. Eaddy, M.D. of Sumter. Dr. Eaddy keeps the original on his desk at all times as a "reminder." Charles R. Holmes is to be congratulated for having written such a timeless warning in 1954.

The Editor

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We have DISPLAYED at every S. C. State Medical Society Meeting since 1921, and advertised CONTINUOUSLY in the S. C. Journal since January 1920 issue.



## CUSTOMARY AND PREVAILING CHARGES

Customary and Prevailing charges appear to be an area of confusion to most practicing physicians. Actually, each concept is quite simple and easy to explain.

### What is a Customary Charge?

A physician's Customary Charge is based on the median (mid-point) of five (5) or more charges received in the previous calendar year for a given service.

Let's determine Dr. X's Customary Charge for a tonsillectomy (code 200 2993).

<u>Patient</u>	<u>Date of Service</u>	<u>Code</u>	<u>Charge</u>
1. B. Jones	6-19-72	200 2993	75.00
2. L. Allen	2-16-72	200 2993	75.00
3. C. Smith	12-26-72	200 2993	90.00
4. J. Patterson	6-26-72	200 2993	100.00 *
5. R. Stokes	1-14-72	200 2993	100.00
6. A. Price	10-24-72	200 2993	100.00
7. E. Barnes	3-11-72	200 2993	100.00

Dr. X performed a total of seven (7) tonsillectomies during 1972. After listing his charges in ascending order, we find the median (mid-point) charge. In this case the fourth charge is the median charge and \$100 is determined as his Customary Charge for the procedure and entered in his "profile".

### What is a Prevailing Charge?

The Blue Shield Prevailing Charge is based on the 90th percentile of Customary Charges of South Carolina Physicians for a given service. Medicare used the 75th percentile of weighted Customary Charges according to geographical area and speciality.

Let's now figure the Blue Shield and Medicare Prevailing Charge for Code 200 2993.

<u>Doctor</u>	<u>Code</u>	<u>Number of Cases</u>	<u>Customary Charge</u>
Dr. Clark	200 2993	10	80.00
Dr. Brown	200 2993	7	90.00
Dr. Aaron	200 2993	14	100.00
Dr. Kelley	200 2993	6	100.00
Dr. X	200 2993	7	100.00
Dr. Nelson	200 2993	3	110.00 *
Dr. Lane	200 2993	9	125.00 *
Dr. Price	200 2993	4	130.00
		<u>Total</u> 60	

Medicare: Take 75% of total number of cases (.75 X 60 = 45).

The 45th charge is the Medicare Prevailing Charge (\$110).

Blue Shield: Take 90% of total number of cases (.90 X 60 = 54).

The 54th charge is the Blue Shield Prevailing Charge (\$125).

Based on the above determinations, Dr. X's Customary Charge of \$100 for code 200 2993 would be allowed in full for Blue Shield and Medicare.



# How strong must a tranquilizer be for severe anxiety?

## As strong as Librium® 25 mg (chlordiazepoxide HCl)



The achievement of desired therapeutic results is often a function of the dosage strength as well as the drug's intrinsic action. Thus, when anxiety is *severe*, the 25-mg strength of Librium frequently provides the necessary antianxiety action with a minimum of unwanted adverse reactions. Librium 25 mg is a convenient dosage form for the relief of severe, incapacitating anxiety, specifically formulated to supplement your counsel and reassurance.

### Benefits-to-risks ratio permits higher dosage

For over 13 years, Librium has been recognized for its excellent benefits-to-risks ratio, an asset in the *higher* dosage ranges as in more common clinical applications. Thus, the frequency of dosage with Librium 25 mg can be flexibly adjusted to the needs and response of the individual patient, up to 100 mg daily if required. Total daily dosage for the elderly and debilitated should not exceed 20 mg. When severe anxiety has been reduced, Librium dosage should be correspondingly reduced or discontinued entirely.



basic support  
in severe anxiety  
**Librium® 25 mg**  
(chlordiazepoxide HCl)  
1 capsule t.i.d./q.i.d.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

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# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

**PULMONARY BLASTOMA**

**GIANT CYSTS IN RHEUMATOID ARTHRITIS**

**HILAR ADENOPATHY**

**SCMA OFFICERS' REPORTS**

**VOLUME 69**

**JULY, 1973**

**NUMBER 7**

## **Announcing . . .** **U-100 Iletin®** (Insulin, Lilly) (100 units of Insulin per cc.)

This is a concentration suitable for most Insulin-dependent diabetics.

U-100 Iletin promises significant patient benefits from standardized, simplified, and convenient Insulin therapy. It is available in six formulations.

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Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counseling



and a few may need counseling  
*and* the psychotropic action of Valium® (diazepam).



Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect.

**Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.



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8 AUG 1973

# Valium® (diazepam)

To help you manage excessive psychic tension

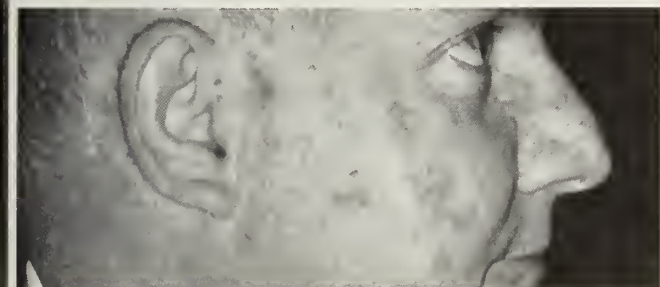
# What's on your patient's face...

may be more important than  
his chief complaint

**The lesions on his face may be solar/actinic — so-called "senile" keratoses...and they may be premalignant.**

## **Solar, actinic or senile keratoses**

These lesions may be called by several names, but they usually can be identified by the following characteristics: the typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent, and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.



*Patient P.T.\* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electro-surgical procedures.*

## **Sequence of therapy/ selectivity of response**

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; the reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

## **Acceptable results**

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.



*Patient P.T.\* seen on 6/12/67, seven weeks after discontinuation of 5%-FU cream. Reaction has subsided. Residual scarring not seen except for that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.*

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local — pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported — insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with non-metal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers — containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

Cream, 25-Gm tubes — containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).

**This patient's lesions  
were resolved with**

**Efudex<sup>®</sup>  
(fluorouracil)  
5% cream/solution  
...a Roche exclusive**



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# The Journal of The SOUTH CAROLINA Medical Association

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

### Contributions of Original Articles

Mailing address—Edw. E. Kimbrough, M.D., Editor, 2709 Laurel Street, Columbia, S. C. 29204.

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.


Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, *Arch Int Med* 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

Reprints—Reprints will be made for the author at established rates.





# The diabetic who has too much... too much sugar, too much fat.

Maybe the last thing she needs is more of her own insulin. Especially when you consider that many overweight diabetics already have normal or high levels of endogenous insulin and that insulin is lipogenic.

If she just won't diet and oral therapy is indicated in adult-onset, nonketotic diabetes.

## DBI-TD® Geigy phenformin HCl

lowers blood sugar without raising blood insulin.

For complete details, including dosage, please read the prescribing information. It's summarized below.

**DBI® phenformin HCl**  
Tablets of 25 mg.  
**DBI-TD® phenformin HCl**  
Timed-Disintegration  
Capsules of 50 and 100 mg.

**Indications:** Stable adult diabetes mellitus; sulfonylurea failures, primary and secondary; adjunct to insulin therapy of unstable diabetes mellitus.

**Contraindications:** Diabetes mellitus that can be regulated by diet alone; juvenile diabetes mellitus that is uncomplicated and well regulated on insulin; acute complications of diabetes mellitus (metabolic acidosis, coma, infection, gangrene); during or immediately after surgery where insulin is indispensable; severe hepatic disease; renal disease with uremia; cardiovascular collapse (shock); after disease states associated with hypoxemia.

**Warnings:** Use during pregnancy is to be avoided.

**Precautions:** 1. *Starvation Ketosis:* This must be differentiated from "insulin lack" ketosis and is characterized by ketonuria which, in spite of rel-

atively normal blood and urine sugar, may result from excessive phenformin therapy, excessive insulin reduction, or insufficient carbohydrate intake. Adjust insulin dosage, lower phenformin dosage, or supply carbohydrates to alleviate this state. **Do not give insulin without first checking blood and urine sugar.**

2. *Lactic Acidosis:* This drug is not recommended in the presence of azotemia or in any clinical situation that predisposes to sustained hypotension that could lead to lactic acidosis. To differentiate lactic acidosis from ketoacidosis, periodic determinations of ketones in the blood and urine should be made in diabetics previously stabilized on phenformin, or phenformin and insulin, who have become unstable. If electrolyte imbalance is suspected, periodic determinations should also be made of electrolytes, pH, and the lactate-pyruvate ratio. The drug should be withdrawn and insulin, when required, and other corrective measures instituted immediately upon the appearance of any metabolic acidosis.

3. *Hypoglycemia:* Although hypoglycemic reactions are rare when phenformin is used alone, every precaution should be observed during the dosage adjustment period particularly when insulin or a sulfonylurea has been given in combination with phenformin.

**Adverse Reactions:** Principally gastrointestinal; unpleasant metallic taste, continuing to anorexia, nausea and, less frequently, vomiting and diarrhea. Reduce dosage at first sign of these symptoms. In case of vomiting, the drug should be immediately withdrawn. Although rare, urticaria has been reported, as have gastrointestinal symptoms such as anorexia, nausea and vomiting following excessive alcohol intake. (B) 98-146-103-E (6/72)

For complete details, including dosage, please see full prescribing information.

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Division of CIBA-GEIGY Corporation  
Ardsley, New York 10502



# What should a medication for sleep be expected to provide?



Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or

recommended.

**Contraindications:** Known hypersensitivity to flurazepam HCl.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years

of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with



## Sleep for 7 to 8 hours without need to repeat dosage during the night

No sleep medication has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patients given one 30-mg capsule of Dalmane at bedtime, on average: fell asleep within 17 minutes, had fewer nighttime awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to repeat dosage during the night.

## Sleep with consistency

Dalmane has been shown to be consistently effective even during consecutive nights of administration. Thus there is little likelihood for the need to increase dosage to maintain therapeutic effect.

Dalmane (flurazepam HCl) is a distinctive sleep medication—a benzodiazepine specifically indicated for insomnia. It is not a barbiturate or methaqualone, nor is it related chemically to any other available hypnotic.

## Sleep with relative safety

Chronic tolerance studies have confirmed the relative safety of Dalmane; no depression of cardiac or respiratory function was noted in patients administered recommended or higher doses for as long as 90 consecutive nights. Dalmane is generally well tolerated and morning "hang-over" is relatively infrequent. Dizziness, drowsiness, lightheadedness and the like have been the side effects noted most frequently, particularly in elderly and debilitated patients. (An initial dose of Dalmane 15 mg should be prescribed for these patients.)

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(15 mg may suffice in some patients).

One 15-mg capsule h.s.—initial dosage for elderly or debilitated patients.



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ent depression or suicidal tendencies. riodic blood counts and liver and kidney function tests are advised during treated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe drowsiness, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported.

Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech,

confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

**Dosage:** Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage; 15 mg may suffice in some patients.

**Elderly or debilitated patients:** 15 mg initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.

# "Prescription drugs – who should determine the maker?"

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Clifton J. Latiolais  
President  
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Pharmaceutical  
Association



## Maker of Medicine

C. Joseph Stetler  
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Association



"Too many doctors are indifferent to the economic consequences of their decisions." So stated a recent issue of *Medical News Report* (December 4, 1972), an independent weekly newsletter published by former AMA Chief Executive F. J. L. Blasingame, M.D.

### Doctor, are you indifferent...?

In discussing an anticipated increase in Blue Shield rates, Dr. Blasingame's newsletter had this to say:

"In general, it can be said, MD's have given the impression they are not particularly concerned with the increase in cost of health care to their patients...

"True, an MD's training is primarily scientific, but in the real world of practice, all of his scientific decisions have a price tag, or an economic impact. The economics of health care beckon the practitioner's attention. Concern for economics of medicine

When the pharmacist recommends that a drug product other than the one ordered be dispensed, the prescriber invariably permits the change when he feels the best interests of the patient will be served.

### Shortcomings of Pro-Substitution Argument

The fact remains that it is necessary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, the unilateral decision of the pharmacist, made in the absence of clinical knowledge of the patient, could expose him to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothing in the pro-substitution argument that offsets these risks.

### The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledge about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degree, puts him at a disadvantage. Most often, a practicing physician will need expert knowledge of no more than 25



should be an obligation of medical practice...

"Medical societies ought to conduct continuing campaigns to point out the substantial savings that could be realized thru deductible insurance and protection for catastrophic illness. At the very least, they should, in the patients' interest, question the tactics of any insurance organization that raises health care costs by forcing policyholders to buy insurance they may not need or want and probably won't ever use.

"Too many doctors are indifferent to the economic consequences of their decisions. Too many, for example, habitually hospitalize patients for the convenience of the MD. It's nonsense to deny such habits exist...

"Doctors, thru their medical societies, have unhesitatingly appealed to their patients for support in the fight against government interference with the private practice of medicine. And the public in the past has responded. It's time the American Medical Association and state and local medical societies paid off the debt by decisive action to hold down the cost of medical care."

### Cost of Drugs

Insurance rates and hospital charges are only two factors in health

care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists are concerned. Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

### Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining

high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

### APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

*(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)*

or 30 drugs that he selects to treat the majority of conditions encountered in his practice. Moreover, the physician's choice of a specific brand is based on his knowledge of the patient's medical history and current condition, and his experiences with the particular manufacturer's product.

Some substitution proponents have argued that the dispensing of a prescription is a simple two-party transaction between the pharmacist and the patient, and that a substituting pharmacist may avoid even a technical breach of contract by simply notifying the patient that he is making the substitution. I would judge that few courts would be sympathetic toward a pharmacist who substituted without physician approval and who undertook a legal defense that seeks to make the patient responsible for the pharmacist's actions.

### Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests

the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

### Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

### Summary

In short, what the American Pharmaceutical Association advo-

cates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

*(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)*

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### PULMONARY BLASTOMA, REPORT OF A CASE

Raul Vila, M.D.\*

J. J. McCoy, Jr., M.D. \*\*

Robert E. McCall, M.D. \*\*\*

This is to report the case of a pulmonary blastoma, a fairly unusual tumor. Until 1968 no more than 20 cases had been published. While this lesion was in the lower lobe of the right lung, most of the other cases were in the upper lobe of the left lung. Also, the patient's course was marked by relative quiescence for about three or four years and then sudden fulmination with the rapid growth until his death. The large size of the tumor was notable also, as well as the presence of positive cytology in the pleural fluid which displayed sarcomatous and epithelial tumor elements.

#### CLINICAL HISTORY

The patient was a 50-year-old Negro male veteran in the U. S. Army in World War II during which time he suffered frostbite, resulting in a right BK amputation in 1945 followed by a revision of

this and removal of traumatic neuromata in 1951. He was admitted to the Veterans Administration Hospital, Columbia, South Carolina, on April 25, 1972 because of cough associated with moderate production of yellow sputum, hemoptysis, right chest pain and dyspnea of some weeks' duration. He admitted to smoking one and one half packs of cigarettes daily for an unstated length of time.

Additional past history involved the ad-

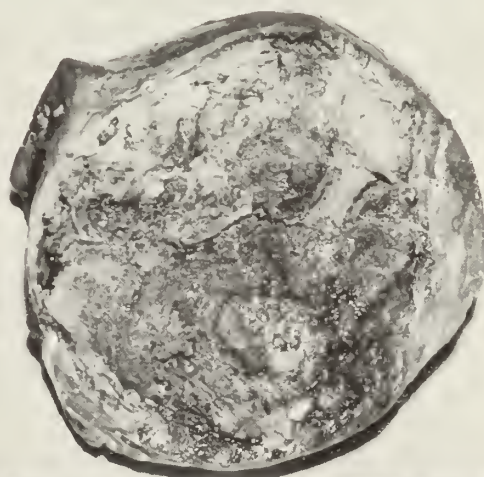


Figure 1. Section of gross specimen. Note the necrotic, hemorrhagic center intermingled with areas of white, solid tumor and a rim of compressed lung.

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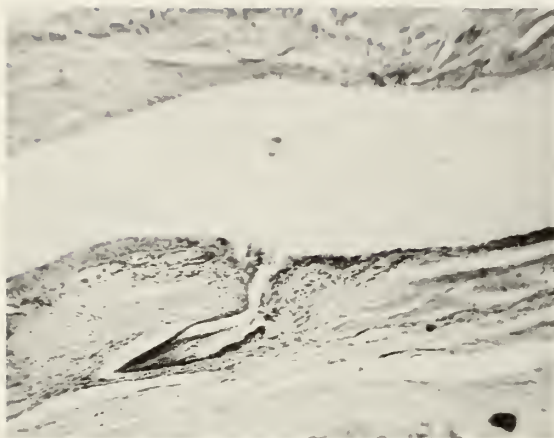


Figure 2. Section through the surgical margin with bronchus below and tumor above.

mission of this patient to the VA Hospital, East Orange, New Jersey, from May 4, 1970 to May 11, 1970 because of pain in his stump area. The summary gave no mention of any chest x-ray examination.

He was admitted to the St. Elizabeth Hospital, Elizabeth, New Jersey, on August 15, 1971 because of active duodenal ulcer symptoms. It is of interest that a chest x-ray film at that institution showed an 8 cm mass in the right lung base. The roentgenologist suggested tomograms. The attending surgeon performed a subtotal gastrectomy for a duodenal ulcer. Following admission to the Columbia VA Hospital, x-ray examination revealed, once again, the mass in the lower right lung field. Of three sputum studies for malignant cells, two received a Papanicolaou I rating. Bronchoscopy on May 4, 1972 revealed tumor tissue in the orifice of the lower lobe bronchus on the right but satisfactory biopsy specimens were not obtained.

Physical examination revealed a dull percussion note over the right lower lung field and diminished to absent breath sounds in that area.

Laboratory data included a CBC with hematocrit 30, hemoglobin 8.9 grams, WBC 13,000, bands 4, segmented neutrophils 69, lymphocytes 20, basophils 1, monocytes 6. Urinalysis was unremarkable except for a trace of protein.

On June 21, 1972 the patient underwent a right thoracotomy with resultant right lower lobectomy. The tumor appeared to be confined to the right lower lobe.

The gross description of the surgical specimen included a weight of 1,960 grams. Postoperatively, the patient did well but one postoperative thoracentesis specimen showed Papanicolaou V rating with tumor cells. The patient was discharged on July 17, 1972. He was readmitted on August 22, 1972 because of progressive weakness associated with anorexia, nausea and vomiting, and once again, hemoptysis. There was moderate pleural effusion on the right as revealed by x-ray films. Biopsy of a subcutaneous mass over the right postero-lateral chest wall showed metastatic tumor tissue. The patient received chemotherapy with a combination of Chlorambucil, Methotrexate and Dactinomycin. He ran a febrile course and expired on September 15, 1972. Unfortunately, permission for an autopsy was not granted.

#### DISCUSSION

This report concerns a case of pulmonary blastoma with certain unusual characteristics. Usually these lesions are classified as neoplasms which originate from embryonic cells of one germ layer. Their close resemblance to the fetal lung histologically prompted Bullard in 1952 to call them pulmonary embryomata. While some be-

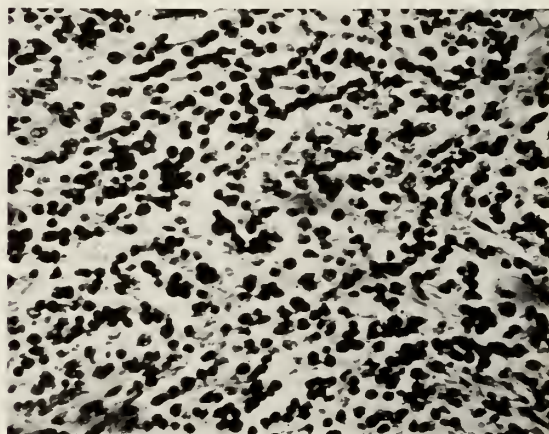


Figure 3. A general view of the tumor showing chiefly epithelial elements. Note the darkness of the small cells which resemble a carcinoid tumor.



## PULMONARY BLASTOMA

have as malignant lesions, others resemble benign tumors. Grossly, they are located peripherally as very large, round, discrete yellow tumors. Their cut surface is usually soft and friable with focal zones of hemorrhage and necrosis. They are sharply delineated but not encapsulated. Peripheral growth or extension into the neighboring lung parenchyma is not a usual finding.

The microscopic picture is that of an undifferentiated embryonal type of connective tissue which harbors tubules produced by multiple layers of vacuolated columnar epithelial cells resembling fetal pulmonary bronchioles.

From one field under view to another, the pathologist sees a variable appearance with smooth muscle fibers in one area and fibrous connective tissue in another zone.

The case presented is that of a 50-year-old black male (see history). The lesion demonstrated slow growth for three to four years but then accelerated rapidly in the several months prior to surgery.

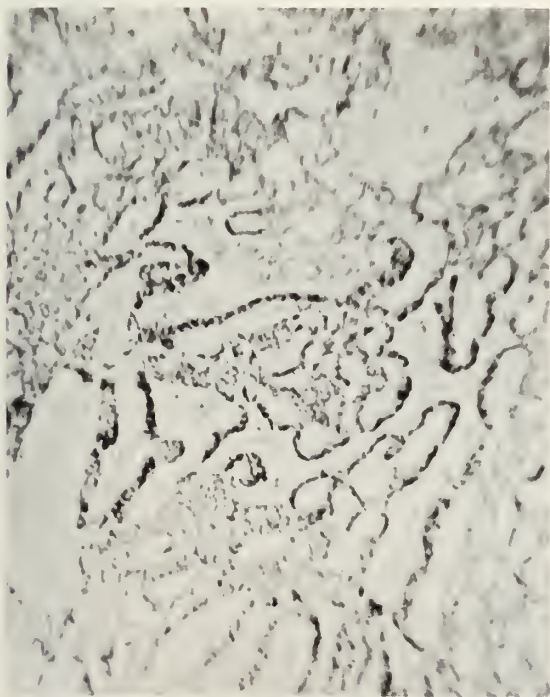


Figure 4. This view shows tube formations mainly.

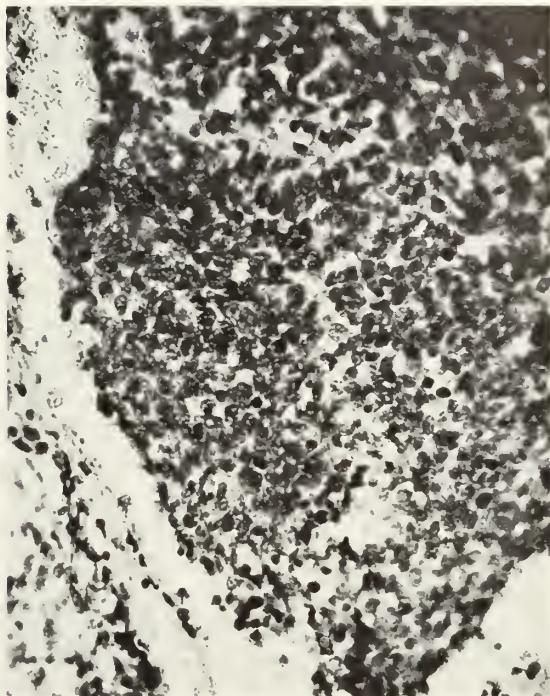


Figure 5. Thoracic wall metastasis. Note the frank predominance of epithelial elements without many tubal or stromal elements. A tendency to tubal formation is on the right.

This latter phase continued in the post-operative period evidencing metastases to the pleural surfaces that produced a positive thoracentesis fluid cytology smear.

At operation a right lower lobectomy of the lung produced a specimen that weighed 1,960 grams. The solitary tumor mass had a cut surface 14 cm in transverse diameter, a mottled marble-like appearance with red areas due to hemorrhage, firm white zones of viable tumor and gray areas of soft necrotic neoplastic tissue. No capsule was discerned on gross examination. The mass was surrounded by a narrow border of atelectatic lung (Figure 1).

Study of the surgical margin of the right lower lobe main bronchus revealed histologically that this structure contained a plug of tumor tissue (Figure 2). The neoplasm in this particular instance was characterized by fibrous stromal tissue with numerous epithelial tubal structures with the cells of the latter being cuboidal in shape, having basically located nuclei.



## PULMONARY BLASTOMA

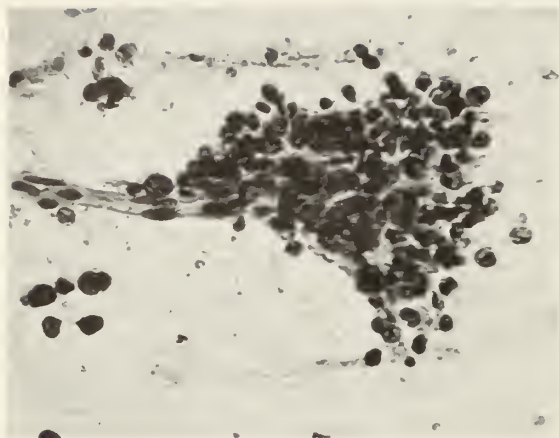


Figure 6. Detail of pleural fluid cytology showing epithelial and stromal malignant tissue. Note the elongated nuclei of the stromal cells on the left.

The fibrous elements of the tumor had large elongated nuclei. Mitotic figures were scarce in both elements (Figures 3,4). The large size of the tumor produced by its rapid growth in the few months prior to surgery and the prominence of large areas of necrosis within it were considered evidence that it was outstripping its tenuous vascular supply. Two

months following the operation a pleural biopsy was obtained and it displayed a microscopic picture of a solid pattern of smaller epithelial cells which had an appearance similar to a carcinoid despite a large amount of hemorrhage and necrosis (Figure 5).

Pleural fluid was obtained at another postoperative time and showed numerous malignant cells from the stromal and epithelial elements of the neoplasm with a paucity of mitotic figures (Figure 6).

### SUMMARY

A case of pulmonary blastoma in a 50-year-old black male is presented because it is an infrequent lesion. Interesting features include occurrence in the right lower lobe of the lung instead of the usual predominant site in the upper left lobe, a pleural fluid smear which demonstrated mesenchymal stroma and epithelial elements in the same cell clusters, apparent slow initial growth followed by rapid fulmination terminally.



Figure 7. Chest x-ray film.



Figure 8. Chest x-ray film.

# PULMONARY BLASTOMA



Figure 9. Chest x-ray film.



Figure 10. Chest x-ray film.



Figure 11. Chest x-ray film.



Figure 12. Chest x-ray film.

## PULMONARY BLASTOMA



Figure 13. Postoperative film.

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# GIANT CYSTS OF THE POPLITEAL FOSSA AND CALF IN RHEUMATOID ARTHRITIS

WALTER M. BONNER, JR., M.D.;  
HENRY B. GREGORIE, M.D.; AND  
EDWARD L. HAY, M.D.\*

Popliteal cysts which communicate with the knee joint and are associated with disease of the joint are termed "Bakers" cysts after the physician who first described them in detail.<sup>1</sup> Cysts that attain great size or extend into the calf are usually found in cases of rheumatoid arthritis.<sup>2</sup> These giant cysts have an inner lining of synovial tissue or a lining consisting entirely of inflamed fibrous tissue. Those lined with synovial membrane probably arise from distention of bursae which normally communicate with the joint space, while those with fibrous lining may arise following rupture of the joint with extension of synovial fluid into periarticular tissues.<sup>3</sup>

In either case the primary problem is the joint disease. The studies of Jayson and Dixon<sup>4,5</sup> have shown the hydrostatic pressure to be raised in knee joints containing effusions. They have demonstrated marked increase in pressure during joint use, including extreme flexion of the knee and contraction of the quadriceps muscle. The pressures achieved with these maneuvers have been shown to cause distention of bursae communicating with the knee,<sup>6</sup> or to result in rupture of the joint.<sup>7</sup>

Jayson and Dixon<sup>8</sup> have shown that the communication between the knee joint and the cyst is often valve-like, permitting easy

passage of fluid from the joint into the cyst but retarding flow in the opposite direction. Because of this phenomenon extremely high pressures are developed within the cysts. Genovese and Dixon<sup>9</sup> have shown that cysts act as "decompression chambers" for the joints and actually protect the joint cartilage and subchondral bone from erosion.

Giant cysts most frequently are extensions of the gastrocnemius-semimembranosus bursa which in 50 per cent of normal knees communicates with the posteromedial aspect of the joint.<sup>10</sup> A few giant cysts communicate with the posterolateral aspect of the knee joint, being extensions of the popliteus bursa which rarely communicates with the joint space. The least frequent site of communication is by way of the mid-portion of the posterior aspect of the joint capsule. These may arise by direct hernial protrusion or because of posterior rupture of the joint.<sup>11</sup>

The giant cysts extend down into the calf by dissecting between the heads of the gastrocnemius muscle, and may present as mildly tender swellings as low as the achilles tendon. They may cause enlargement and tenderness of the calf and interfere with venous blood flow, causing mild edema and thus simulating thrombophlebitis.<sup>12</sup>

The following case reports demonstrate the role of chronic knee joint effusion in the pathogenesis of giant popliteal and calf cysts in rheumatoid arthritis.

Case 1, J.A.H., male developed rheumatoid arthritis at age 45. He had persistent poly-

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## GIANT CYSTS IN RHEUMATOID ARTHRITIS

arthritis in spite of treatment with rest and salicylates, plus short courses of corticosteroids and phenylbutazone. Six years after the onset he noticed a mass in the medial aspect of the left calf.

Examination revealed active synovitis in many peripheral joints. There were moderate effusions in both knees. A soft and mildly tender cystic mass (8 centimeters in diameter and 18 centimeters in length) was palpable in the left calf. The circumference of the left calf was about three centimeters greater than that of the right calf.

Fifty milliliters of synovial fluid were aspirated from the cyst after direct puncture. Thirty milliliters of Hypaque (meglumine Diatrizoate 60%) were instilled after which x-ray examinations of the leg and the knee were made. These revealed an elongated cyst communicating with the posteromedial aspect of the joint space (Figure 1).

On October 17, 1967, the cyst was excised (Figure 1). The pedicle connecting the cyst with the joint space was ligated. Microscopic examination of the wall of the cyst showed a synovial lining with chronic inflammatory changes typical of rheumatoid arthritis (Figure 2a).

Within four weeks a large cyst appeared in the popliteal space. It remained in spite of aspiration of joint fluid and intra-articular injection of a corticosteroid preparation. On May 18, 1968, the popliteal cyst was excised and an anterior synovectomy of the knee joint was performed. Microscopic examination of the wall of the popliteal cyst showed chronically inflamed fibrous tissue with no synovial inner lining (Figure 2b). The synovial membrane removed simultaneously was densely infiltrated by inflammatory cells (Figure 2c).

Although the rheumatoid disease has remained active generally, there has been little evidence of synovitis in the left knee and the popliteal cyst has not reappeared during the ensuing five years.

Case 2, E. C. L., male, developed rheumatoid arthritis at age 44. Eleven months after the onset he noted effusion in the left knee, enlargement and tenderness of the left calf and mild edema of the ankle and foot on that side.

On June 1, 1970, 30 ml of synovial fluid were aspirated from the suprapatellar bursa. Thirty milliliters of Hypaque were injected into the joint space. X-ray films revealed a large, elongated cyst in the popliteal space and calf, communicating by way of a narrow connection to the postero-medial aspect of the knee.

On June 8, 1970, 40 mg of Depo-Medrol (Methylprednisolone acetate) were injected into the right suprapatellar bursa. The effusion in the knee, the tender swelling of the calf and the pedal edema cleared in a few days and have not recurred.



Figure 1. Surgical specimen (cystectomy, October 17, 1967) overlying the arthrogram, which outlines the popliteal and calf cyst and the suprapatellar bursa.

The patient has been treated with the basic program of rest and salicylates. After an accentuation of synovitis in the hands and wrists he was started on gold therapy in January 1972. Gold therapy was terminated in September 1972 after a rash appeared but he had no active synovitis when last examined (December 1972).

Case 3, R. A. D., female, developed rheumatoid arthritis at the age of 49. Two years after the onset she noticed swelling and mild tenderness in the left calf.

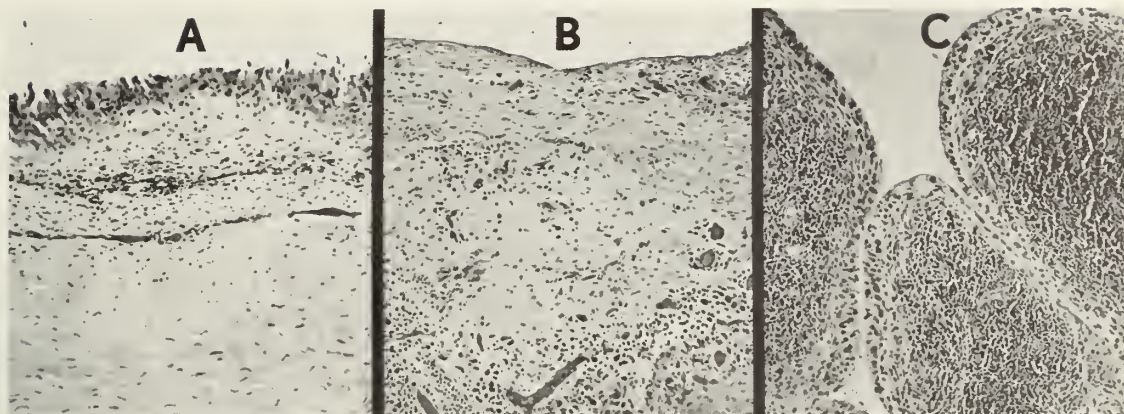
On May 29, 1969, 50 milliliters of synovial fluid were aspirated from the left suprapatellar bursa. Thirty milliliters of Hypaque were injected. X-ray films showed an elongated cyst in the popliteal area and calf, communicating with the joint space posteromedially.

Two days later 40 mg of Depo-Medrol were injected into the suprapatellar bursa. A second injection was made eight weeks later. The patient was treated with rest and salicylates. In addition, she received gold therapy in the form of Myochrysine 50 mg IM weekly. After 1000 mg of the gold salt were given she received maintenance doses of 50 mg IM monthly.

There has been marked improvement in the generalized synovitis. The effusion in the left



## GIGANT CYSTS IN RHEUMATOID ARTHRITIS



a. Wall of cyst excised October 17, 1967. Hematoxylin and Eosin, X 65. Inner lining of synovial cells infiltrated by inflammatory cells.

b. Wall of cyst excised May 8, 1968. H. and E., X 65. The cyst wall consists entirely of dense fibrous tissue infiltrated by inflammatory cells. There are no synovial living cells.

c. Synovial membrane excised from the knee, May 8, 1968. H. and E., X 65. Beneath the distinct layer of synovial living cells there is diffuse infiltration of the synovium by inflammatory cells.

knee cleared after the second corticosteroid injection. The popliteal cyst and the calf enlargement were never detectable after the first injection.

### DISCUSSION

In the first case cited, the giant cyst recurred within a month after simple cystectomy. It did not recur after excision coupled with an anterior synovectomy. In the other two cases the cysts disappeared after the joint effusion was terminated by intra-articular corticosteroid therapy plus systemic anti-inflammatory therapy.

This experience suggests that excision of giant cysts need not be performed if synovitis in the knee joint can be terminated. In view of the high pressures known to be generated in joints containing effusions and in view of the possibility of rupture of the suture line it would seem that simple cystectomy should not be performed in these cases.

Other observers have emphasized the importance of control of synovitis in the knee joint. Harvey and Coreos<sup>3</sup> reported that cysts disappear and recur with remission

and exacerbation of the rheumatoid process. Cysts recurred promptly in two of their three cases who had cystectomies but showed evidence of continuing synovitis in the knees. Myles<sup>7</sup> reported recurrence of four of five giant cysts after simple cystectomy. From another standpoint, Jayson et al<sup>13</sup> reported disappearance of popliteal or calf cysts after anterior synovectomy in nine cases.

### CONCLUSION

Control of synovitis in the knee joint is essential to the eradication of giant popliteal or calf cysts occurring in rheumatoid arthritis.

If synovitis with effusion can be terminated by systemic anti-inflammatory therapy plus intra-articular corticosteroid therapy, giant cysts may resolve simultaneously.

When surgical therapy becomes necessary, excision of the cyst must be accompanied by anterior synovectomy if lasting control is to be expected and recurrence of the cyst avoided.



## GIANT CYSTS IN RHEUMATOID ARTHRITIS

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## X-RAY FILM OF THE MONTH

### HILAR ADENOPATHY

J. ROBERT HUTCHESON, JR.



Bilateral, symmetrical hilar involvement is suggestive of pulmonary sarcoidosis. Other findings which tend to support this diagnosis are: 1) bilateral hilar and right paratracheal adenopathy with or without associated pulmonary infiltration, 2) widely

associated pulmonary miliary or nodular densities without calcifications in a relatively asymptomatic person, 3) massive hilar nodes in a well person, 4) absence of systemic symptoms, 5) age under 40, 6) Negro race.<sup>1,2,3,4</sup>

## HILAR ADENOPATHY

In the presence of these typical features of roentgenograms, the presence of erythema nodosum or uveitis, and the absence of pleural effusion, unexplained anemia, anterior mediastinal mass, or parenchymatous nodules tend to add strength to the presumptive diagnosis.<sup>2</sup>

It is well to note that some authors stress the importance of consideration of sarcoidosis in unilateral hilar adenopathy, considering that this might represent either an early stage or a stage of resolution.<sup>5,6</sup> Many authors feel that the hilar nodes in sarcoidosis are far more likely to be bilaterally and symmetrically enlarged as a presenting or initial sign and that unilateral enlargement is more suggestive of other diseases.<sup>1,7,8</sup> This

idea is supported by the idea that once sarcoid enlargement is seen in the hila, they usually do not significantly increase in size, and such increase is also suggestive of another disease process.<sup>8</sup>

When tissue diagnosis is needed, it may be obtained in a number of ways, including thoracotomy or mediastinoscopy. If supraclavicular adenopathy is present, a scalene biopsy is often suitable to obtain tissue for study.<sup>9</sup> It must be remembered, however, that a number of disease processes may give sarcoid-like reactions in lymph nodes.<sup>10</sup> Therefore, selected typical cases may often-times be suitably followed by radiographs and clinical assessment.

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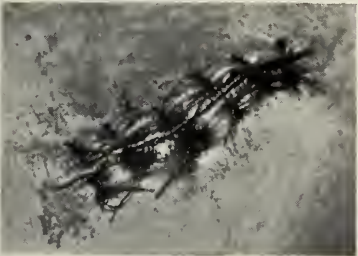
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**Warnings:** Patients with severe cardiac disease should be given this medication with caution.

Fever and possibly heat stroke may occur due to anhidrosis. In theory a curare-like action may occur, with loss of voluntary muscle control. For such patients prompt and continuing artificial respiration should be applied until the drug effect has been exhausted.

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**Contraindications:** Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

**Warnings:** Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia ( $> 5.4$  mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide,' check serum potassium frequently — both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides

are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

**Precautions:** Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with anti-hypertensive agents may result in an additive hypotensive effect.

**Adverse Reactions:** Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

**Supplied:** Bottles of 100 capsules.

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# President's Pages



## STATE MEETING

I had planned another subject for my second President's Page after being inaugurated as President but I believe so much happened at the State Meeting that it would be good to give you a resume through the eyes and ears of your President. I am writing this especially for those of you that were not there but will be affected by it.

Two years ago the House of Delegates gave instructions that the Association Headquarters would be moved to Columbia not later than 1975, and plans were made to build a Permanent Home. Land was obtained about a year ago and a Permanent Home Committee appointed. This Committee has been working throughout the year and presented three alternatives to the recent House of Delegates.

1. A one-story building,
2. A two-story building or,
3. A three-story building with leasing of the two top floors to help pay the rent of S.C.M.A. and carry the payments on the building.

The three-story building was decided upon and, as it is necessary to have additional capital, a temporary dues increase of \$5.00 per month for three years was added to raise this capital.

In April, as plans for the building in Columbia were progressing, Mr. Richard Pugh, Assistant Executive Secretary in Columbia, resigned to accept another position. It was then decided by the majority of Council that, instead of seeking a replacement, a new Executive Secretary should be sought to replace Mr. Meadors and open a temporary office in Columbia until the Permanent Home is completed. Mr. Meadors is to be retained at his same salary as a Consultant until July 1976 to assure him of his full retirement.

During the past year the Association has been operating on a deficit budget and the expected increase in expenses (Mr. Meadors on full salary and the new Executive Director) would add approximately a \$20,000 to \$25,000 increase in expenditures. The House of Delegates, when confronted with this situation, decided to increase the regular dues by \$45.00 a year to \$120.00 a year.

After putting its finances in order and assuring the Association of adequate state office supervision, the House of Delegates passed several other resolutions that you will be concerned with.

The House urged "stiffer" penalties for Drug Pushers which could include mandatory life sentences for convicted "Drug Pushers."

It has been reported that an Abortion Clinic will open in Columbia in a Private Office. This was studied thoroughly in the light of the recent Supreme Court Decision and it was decided to go on record as opposing abortions being done anywhere except in an Accredited Licensed Hospital. No Private Outpatient Abortion Centers should be established. This

resolution is to be publicized and all branches of the State Government will be informed of our action.

State Board of Health Reorganization Plan #10 has passed the House of Representatives and is being considered by the Senate. It provides no guarantee that any physician shall be appointed to the newly created Executive Committee of State Board of Health. The House of Delegates, S.C.M.A., passed a resolution calling on the Governor and Legislature to require that at least one practicing physician from each Congressional District be appointed by the Governor upon recommendation of the S.C.M.A. to serve with the presently anticipated member board and have full voting power.

The House of Delegates agreed with the suggestion that, in addition to the yearly General Meeting of S.C.M.A., we have a Business Meeting in Mid-Winter composed of House of Delegates, Council, Foundation, and the major committees. This will be studied further and an announcement will be made.

The House of Delegates went on record as opposing the Hospital Franchising Act as it now operates.

The House recommended that Council proceed as it has been to get prepared to assume the leadership in this state for P.S.R.O. with negotiations to continue with Blue Cross-Blue Shield in studying possible areas of cooperation along with the Foundation and the Peer Review Committee.

These have been some of the Highlights of the State Meeting that will affect you most. I strongly urge you to seriously study the benefits that will be yours by continuing to strongly support the S.C.M.A. and the A.M.A. They are the only organizations that can negotiate for you. On the state level, voice any complaints of your State Association and I will try to get you an answer.

We need your suggestions, your constructive criticism and your praise to fully represent the majority of our members.

Harold P. Hope, M.D.  
President



## 50 YEARS AGO

July, 1923

The secretary reported on his trip to the A.M.A. convention in San Francisco. By train the trip required fourteen days at a cost of \$250. By using upper berths, living on two meals a day, and staying in modest hotels, the cost could be cut to \$200, reported the delegate.



# Editorials

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## Impressions of Convention '73

President **Eddie Parker's** stirring, perceptive oration, "The Metamorphosis of Medicine," moving the House of Delegates forward to better things.

President-Elect **Harold Hope** correctly assessing the poor performance of our present committee system and taking brave, constructive steps to improve it. He also recognized the need of further groundwork to build a stronger SCMA and had the strength and wisdom to initiate a mid-winter business meeting of SCMA.

Speaker-of-the-House **Tucker Weston**—we knew he was "the railroad physician" for several railroad lines, but after seeing him in action in the House of Delegates, we know he is indeed the railroad physician par excellence. He can really move those resolutions through the house. Choo! Choo!

Chairman of Council **Waitus Tanner** biting the bullet and recommending a \$45 a year dues increase and a \$60 a year assessment, getting it passed, and getting re-elected chairman of council! How smooth can you get?

**Tom Parker** epitomizing Teddy Roosevelt's advice, "Speak softly, but carry a big stick," as he quietly utters words that carry great impact.

Vice-President **Kenneth Owens**, in a sparsely attended Miscellaneous Business Committee meeting, doing the talking that was really pivotal in deciding to go ahead with the ambitious three-story Headquarters Building in Columbia. In years to come, this will prove to be a wise decision.

President of SocPac (and now President-Elect of SCMA) **Don Kilgore** smiling somewhat tightly as his luncheon speaker, Neal Pierce, castigated the Nixon regime.

Secretary **Buddy Pope** speaking with the fire and brimstone of an evangelistic preacher trying to motivate our society to action.

Treasurer **Howard Stokes** reporting a deficit budget to the House of Delegates

with such charm and aplomb that everyone smiled and applauded.

Vice-Speaker of the House **Bill Hunter** acting so effectively and correctly that no one even remembered that he is from Clemson.

A.M.A. Delegate **John Hawk** agreeing to make the personal sacrifice of fighting the unconquerable foe as he stands for election to the A.M.A. Council to thrust South Carolina into national attention.

**Rick Pugh** bidding us all farewell and going on to the Directorship of the Nevada Medical Association.

**Jack Meadors** culminating his 28 years of association with SCMA at this greatest of all conventions.

**LeRoy Harrelson's** arranging the first ever press conference at the SCMA with **Eddie Parker, Waitus Tanner, Tucker Weston** and **John Budd** seeming to be "old pros" at such things as they appeared on television all over the state espousing the constructive side of medicine. This was a major breakthrough in improving our image. May this approach long continue.

**John Budd** of Cleveland, Ohio, a physician and gentleman in the full sense of these terms, adding immeasurably to our CONVENTION '73.

E.E.K.

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## Ecology—Any Hope?

As one of the early Astronauts was hurtling toward the moon, he looked back and saw a small green ball hanging in space. He suddenly realized this was Earth and that it was very comparable to his small, three-man spaceship. Like his spaceship, Earth is a finite vehicle, inhabited with passengers dependent on finite, limited, consumable life-support materials such as oxygen, organic fuels, etc. Like the astronaut circling the moon, we all live on Spaceship Earth, depending on an expendable ecosystem for our life.

Ecological preservation is now in an apogee of public attention. Many strident, political, self-serving voices are raised in its sometimes hysterical advocacy. One of the sanest proponents of ecological thinking is Barry Commoner in his book, **The Closing Circle: Nature, Man and Technology**,<sup>1</sup> and another sane voice is Warren Irvin in his letter (printed in this issue) calling attention to Commoner's message and our responsibility to heed it.

In **The Closing Circle** Commoner points out that once before in Earth's history, life was threatened with extinction. Earth's first living things consumed the nutritive base as they grew, and like modern man, were embarked on a linear, self-destructive course. What saved early life from obliteration was the appearance of a new life form, photosynthetic organisms which reconverted waste into fresh organic matter. The circle was closed! We are now faced with closing our circle, somehow we must learn to restore to nature the wealth we borrow from it. This means we must change some of our ways, and soon.

There are many more pessimistic tellers of doom—some see the unavoidable apocalypse upon us. These doom sayers seem to get the most attention now. However, there are those who see some hope. One, John Maddox in his **The Doomsday Syndrome—An Attack on Pessimism**, points out man's inherent will to survive and his demonstrated ingenuity in surviving precarious situations, getting thus far anyway.

Another hopeful voice is that of Buckminster Fuller of geodesic dome fame. Fuller noted in the 1920's that automobile accidents then concentrated in urban areas. Fuller sagely foresaw the tremendous growth of automobile travel and the accompanying carnage with which we are all now too familiar. The authorities hoped to ease the malady by reforming the motorist. Fuller comprehended the futility of this approach and even in the 1920's advocated avoidance of accident potentials through invention of highway dividers, grade separators, cloverleafing and stop lighting. The early response to this was that it would cost much too

much, was much too distant, would require too much science and engineering, would make life too mechanical, and would abrogate States' Rights. The test of time has shown that Buckminster Fuller was eminently correct. The basis of Fuller's thinking then was "Reshape environment, don't try to reshape man." He applies with hope this same approach to our present ecological quandary: "Reshape environment, don't try to reshape man."

On a much grander scale, George B. Leonard, in his book, **The Transformation** sees an anthropological change now occurring which may lead to a new species. Present day concepts of politics, old age, death, growth, energy, information, war, animal, man, woman, tree, planet, matter, knowledge, and time are on their way out even as we live within them. This is a transcendent viewpoint, the differences between the Renaissance, the Reformation, and the Enlightenment are insignificant as compared with the difference between Civilization and the life before it, or between Civilization and the coming "mystical union." This is probably confusing but this book is highly recommended to anyone who enjoys thinking along transcendental lines.

My thesis can be summed up by the words of that very underestimated man, Adlai Stevenson, to the Economic and Social Council of the United Nations in 1965: "We travel together, passengers on a little spaceship, dependent on its vulnerable supplies of air and soil; all committed for our safety to its security and peace, preserved from annihilation only by the care, the work, and I will say the love, we give our fragile craft."

Read Warren Irvin's letter. Then go and do likewise.

E.E.K.

#### REFERENCES

1. Barry Commoner: *The Closing Circle: Nature, Man, and Technology*. (A. A. Knopf, New York, 1971).
2. John Maddox: *The Doomsday Syndrome—An Attack on Pessimism*. (McGraw-Hill, New York, 1972).
3. George B. Leonard: *The Transformation—A Guide to the Inevitable Changes in Humankind*. (Dela-corte, New York, 1972).

## LETTER TO THE EDITOR

"Dear Ed:

"I am prompted to write a 'letter to the editor' which may also serve as a 'book review' and perhaps also to express some of my own increasing concern about our ever increasing problem of the spoilation of our environment. Those of us who have been fortunate enough to have lived in South Carolina for many years and have enjoyed its clean air, streams, wonderful climate and other blessings of nature should be more concerned than we are at the present time. There are too many mornings now, when on getting up early, it is evident to all that our air is filled with particles that keep us from seeing the sun. The constantly growing population which seems to be a main concern of the Chamber of Commerce is evident to us all. Certainly, the financial status of even the poorest of our citizens is better now than it was for many years, but I am not convinced that his way of life is better; and I am certain that his children's way of life will never approach that of previous generations unless some radical change is made.

"Provoked by a superb review (which I also recommend) appearing in the **Archives of Internal Medicine** in February 1973 by Dr. Charles D. Aring of the book, **The Closing Circle: Nature, Man and Technology** by Barry Commoner, Alfred A. Knopf, Inc., publishers, I purchased this and avidly read it over the next few days. Let me second Dr. Aring's remarks that it is an excellent book and one that every physician, as well as

every citizen, should read. I recommend it highly to each member of our Association with the hope that it will be widely read. Here you will find factual information concerning nuclear, air, earth and water problems. Dr. Commoner is not a 'fire and brimstone' evangelist but does state the problem in easily understood, but strongly put terms, and offers some reasonable suggestions for ameliorating if not curing these ills. The economic and social problems which need to be faced by all of us are discussed in detail.

"It is time that we as physicians involve ourselves more and more in the health of our planet. All of us have been trained to do one-on-one medicine and I sincerely believe that American Medicine is the best to be found in the world. In spite of this accomplishment, however, we should again try to fulfill our role as the leaders of the people in advising them about the scientific as well as the health problems that involve our friends and neighbors. It is only by assuming this role and doing it joyfully, intelligently and whole-heartedly that the physician in South Carolina can regain his role as an admired and beloved citizen. If we do this we do not need to hire public relations experts to make our case to the public. Dr. Commoner's book will help us all become better citizens.

"With kindest regards,

Sincerely yours,  
C. Warren Irvin, Jr., M.D."





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No calculations are needed, test interpretation is simple.

Any of the commonly used T<sub>4</sub> thyroid function tests (P.B.I., T<sub>4</sub> By Column, Murphy-Pattee, Free Thyroxine) are useful in monitoring patients on T<sub>4</sub> because they *all* measure T<sub>4</sub>. Patients on SYNTHROID are thereby easy to monitor because their results will fall within predictable, elevated test ranges. Of course, clinical assessment is the best criterion of the thyroid status of the drug-treated patient.

(1) The onset of action of T<sub>4</sub> is gradual. It has a long in vivo "half-life" of over six days. (Occasional missed doses or accidental double-doses are of less concern because of this factor)<sup>1</sup>; (2) since SYNTHROID contains only T<sub>4</sub>, the potential for metabolic surges traceable to more potent iodides (T<sub>3</sub>) is eliminated.

TEST	HYPOTHYROID	SYNTHROID THERAPEUTIC NORMAL
P.B.I.	Less than 4 mcg %	6-10 mcg %
T <sub>4</sub> By Column	Less than 3 mcg %	7-9 mcg %
T <sub>3</sub> (Resin)	Less than 25%	27-35%
T <sub>3</sub> (Red Cell)	Less than 11%	11.5-18%
Free Thyroxine	Less than 0.7 nanograms %	0.7-2.5 nanograms %
Murphy-Pattee	Less than 2.9 mcg %	4-11 mcg %



**AS WITH ANY THYROID PREPARATION, CAUTIOUS OBSERVATION OF THE PATIENT DURING THE BEGINNING OF THERAPY WILL ALERT THE PHYSICIAN TO ANY UNTOWARD EFFECTS.**

Side effects, when they do occur, are related to excessive dosage. Caution should be exercised in administering the drug to patients with cardiovascular disease. Read the accompanying prescribing information for additional data or write Flint Laboratories.

**Choose the Smooth Road ...to thyroid replacement therapy**



## PATIENTS CAN BE SUCCESSFULLY MAINTAINED ON A DRUG CONTAINING THYROXINE ALONE.

Thyroxine ( $T_4$ ) is, as you know, the major circulating hormone produced by the thyroid gland.  $T_3$  is also produced, in smaller amounts, and is active at the cellular level. For years it has been a working hypothesis among endocrinologists that  $T_4$  is converted by the body to  $T_3$ . In 1970 this process, called "deiodination," was demonstrated by Braverman, Ingbar, and Sterling<sup>2</sup>.  $T_4$  does convert to  $T_3$ , though the precise quantities are still being studied.

The conversion has been clinically demonstrated during the administration of  $T_4$  to athyrotic patients. Their thyroid status is normalized on SYNTHROID alone, yet the presence of  $T_3$  in these patients has been clearly shown.

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## (sodium levothyroxine)

### THE FACTS ARE CLEAR AND HERE IS OUR OFFER.

#### FACTS:

Synthetic thyroid drugs are an improvement over animal gland products. Patients, even athyrotic ones, can be completely maintained on SYNTHROID ( $T_4$ ) alone. Thyroid function tests are easy to interpret since they are *predictably* elevated when the patient adheres to SYNTHROID. Of all synthetic thyroid drugs, SYNTHROID is the most economical to the patient.

### WHY DOES SYNTHROID COST LESS THAN SYNTHETIC DRUGS CONTAINING $T_3$ ?

Very simple.  $T_3$  costs more to make synthetically than does  $T_4$ . So it is economically necessary for a synthetic thyroid medication containing  $T_3$  to cost more than one containing  $T_4$  alone. Synthetic combinations cost patients nearly 50% more than SYNTHROID<sup>3</sup> because the  $T_3$  costs more to start with; also there is the additional expense of formulating a tablet containing two active ingredients.

1. Latiolais, C. J., and Berry, C. C.: Misuse of Prescription Medications by Outpatients, *Drug Intelligence & Clin. Pharm.* 3:270-7, 1969.
2. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine ( $T_4$ ) to Triiodothyronine ( $T_3$ ) in Athyreotic Human Subjects, *J. Clin. Invest.* 49:855-64, 1970.
3. American Druggist BLUEBOOK, March, 1971.

#### OFFER:

Free TAB-MINDER medication dispensers to start or convert all your hypothyroid patients to SYNTHROID. Free information to physicians on role of thyroid function tests in a new booklet titled: "Guideposts to Thyroid Therapy." Ask us.

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Indications: SYNTHROID (sodium levothyroxine) is specific replacement therapy for diminished or absent thyroid function resulting from primary or secondary atrophy of the gland, congenital defect, surgery, excessive radiation, or antithyroid drugs. Indications for SYNTHROID (sodium levothyroxine) Tablets include myxedema, hypothyroidism without myxedema, hypothyroidism in pregnancy, pediatric and geriatric hypothyroidism, hypopituitary hypothyroidism, simple (nontoxic) goiter, and reproductive disorders associated with hypothyroidism. SYNTHROID (sodium levothyroxine) for Injection is indicated for intravenous use in myxedematous coma and other thyroid dysfunctions where rapid replacement of the hormone is required. The injection is also indicated for intramuscular use in cases where the oral route is suspect or contraindicated due to existing conditions or to absorption defects, and when a rapid onset of effect is not desired.

Precautions: As with other thyroid preparations, an overdosage may cause diarrhea or cramps, nervousness, tremors, tachycardia, vomiting and continued weight loss. These effects may begin after four or five days or may not become apparent for one to three weeks. Patients receiving the drug should be observed closely for signs of thyrotoxicosis. If indications of overdosage appear, discontinue medication for 2-6 days, then resume at a lower dosage level. In patients with diabetes mellitus, careful observations should be made for changes in insulin or other antidiabetic drug dosage requirements. If hypothyroidism is accompanied by adrenal insufficiency, as Addison's Disease (chronic subcortical insufficiency), Simmonds's Disease (panhypopituitarism) or Cushing's syndrome (hyperadrenalism), these dysfunctions must be corrected prior to and during SYNTHROID (sodium levothyroxine) administration. The drug should be administered with caution to patients with cardiovascular disease; development of chest pains or other aggravations of cardiovascular disease requires a reduction in dosage.

Contraindications: Thyrotoxicosis, acute myocardial infarction. Side effects: The effects of SYNTHROID (sodium levothyroxine) therapy are slow in being manifested. Side effects, when they do occur, are secondary to increased rates of body metabolism; sweating, heart palpitations with or without pain, leg cramps, and weight loss. Diarrhea, vomiting, and nervousness have also been observed. Myxedematous patients with heart disease have died from abrupt increases in dosage of thyroid drugs. Careful observation of the patient during the beginning of any thyroid therapy will alert the physician to any untoward effects.

In most cases with side effects, a reduction of dosage followed by a more gradual adjustment upward will result in a more accurate indication of the patient's dosage requirements without the appearance of side effects.

Dosage and Administration: The activity of a 0.1 mg. SYNTHROID (sodium levothyroxine) TABLET is equivalent to approximately one grain thyroid, U.S.P. Administer SYNTHROID tablets as a single daily dose, preferably after breakfast. In hypothyroidism without myxedema, the usual initial adult dose is 0.1 mg. daily, and may be increased by 0.1 mg. every 30 days until proper metabolic balance is attained. Clinical evaluation should be made monthly and PBI measurements about every 90 days. Final maintenance dosage will usually range from 0.2-0.4 mg. daily. In adult myxedema, starting dose should be 0.025 mg. daily. The dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

Supplied: Tablets: 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded, in bottles of 100, 500, and 1000. Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, N.F., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent. SYNTHROID (sodium levothyroxine) for Injection may be administered intravenously utilizing 200-400 mcg. of a solution containing 100 mcg. per ml. If significant improvement is not shown the following day, a repeat injection of 100-200 mcg. may be given.



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# SCMA

## REPORT OF THE PRESIDENT

I wish to thank the Association, its delegates, and its members for the honor and privilege of serving as your President for the past year.

It has been most interesting to observe in the years since World War II the tremendous increase in the work necessary for the Association and its Council. This has developed over the years in view of the increasing importance of the third party mechanism for payment of hospital and professional service bills by third parties, initially by private insurance companies and, more recently, joined by Government. In even more recent years, the increasing Federal participation or "interference", depending upon the point of view, in the rendition of medical care has been the precipitating factor. In brief, whereas the medical profession used to try to hold itself aloof from politics, it has been forced into it because of the increasing threat of outside non-medical individuals and organizations trying to dictate the methods of delivery, or the method of payment, or both.

The latest interference with the practice of medicine has been the passage of public law No. 92-603. This calls for the creation of the Professional Standards Review Organizations, which, in effect, places the practice of medicine, as rendered to those whose professional services are to be paid for by the Federal Government, under the HEW Bureaucracy. After considerable thought and extensive reading, it is believed that the only sensible course for the medical profession to follow should be non-participation. However, there is lack of unanimity of opinion on this and many other matters, and there are those who feel that there should be full cooperation. If there is collaboration by the medical profession, there is no doubt that doctors will become agents of the Federal Bureaucracy and, of necessity, many of the standards of practice of medicine will have to be based upon cost and expediency, and not always upon sound judgment.

The work of the Association has increased in so many respects, and the cost of operation has increased in so many ways that it is going to be necessary to revise the financial base of the Association. In brief, the dues of each member need to be increased, and I would recommend this to the members of the Association. The details will be presented by others, but the increase in dues is necessary if the Association is to provide the services needed by its members. The increase in the cost of printing **The Journal** and the decrease in advertising revenue are examples. The addition of part-time public relations counsel to our Staff is another example and, certainly, it should be agreed among us that the image of the medical profession can be improved. I feel strongly that this will prove to have been a wise step.

Whereas the aim of our comprehensive health planning laws is intended to be for the direct benefit of the public, sometimes aims and results do not coincide. Some features of the laws definitely destroy competition among hospitals and among doctors, and it is believed that this feature is distinctly undesirable. In particular, the Hospital Franchising Act destroys the right of a community and its private facilities to decide for themselves improvements which can and should be instituted. Therefore, it is recommended that the Hospital Franchising Act be repealed, or altered, in such a way as to remove the unfair restrictions that it now places upon private institutions at the present time. It is intended that a resolution to this effect will be introduced to the Delegates.

The plans of the Association to transfer its main executive office from Florence to Columbia is going to be beset with financial difficulties. The land has already been acquired in a very desirable site but the cost of the building to house our offices, which will require about 3,000 square feet at this time, plus rental space to try to create income to pay for the building, may prove



to be excessive. At present, the cost of the land, plus the anticipated cost of the building, plus various additional fees, such as architects and realtors and loan commitments and closing and so on, not including a ten per cent contingency fee, approach a million dollars. The Association does not have the resources to finance this without a tremendous loan at high interest. At present, it is anticipated that the return on the building will be less than the interest rate on the loan. Also, at present, we do not have signed, long-term commitments for the rental of the additional space. At present, I would seriously question the wisdom of the Association going into the real estate business at that cost, and it is believed that the wiser course would be to set our sights on a much lower level.

The resignation of Mr. Richard Pugh as our Assistant Executive Secretary is regretted, and I wish to commend Mr. Pugh for the splendid work that he has done in his time with us. He has accepted a position as Executive Secretary for the Nevada Medical Association, and he will be moving to Reno. I am sure that I speak for all in extending him congratulations on his new position and every good wish for his continued success.

However, his withdrawal left us with a serious problem of having no one on the Administrative Staff to be in Columbia. In view of Mr. Meadors' retirement in several years, and in view of the fact that it does not behoove him to move from Florence to

Columbia, it was decided recently by Council that we should seek a new Executive Secretary. Mr. Meadors has been requested to continue with us as a Consultant, with no change in our financial and moral commitment to him, in view of the excellent and loyal service that he has rendered for years. A Committee has been appointed by the Chairman of Council to seek a new Executive Secretary, and we shall await with great interest the result of its searches.

It has concerned me for many years, and I am sure it has concerned many of you, that all the members of the medical profession in the State do not bother to belong to our State Association. It is recommended that each Delegate from each constituent Association make renewed efforts to bring these nonmember confreres into the Association. It would certainly be to the advantage of the Association, and I feel certain that the benefits of membership in organized medicine will continue to be rewarding.

I wish to thank almost innumerable people for their kindnesses and courtesies and cooperation in the past year. I extend my best wishes to the new President, Dr. Harold Hope, and to the President-Elect, to the members of Council and its Chairman. I have every confidence in their interest and diligence and in their ability to decide wisely on issues that, no doubt, will continue to confront us.

Edward F. Parker, M. D.  
President

## REPORT OF THE PRESIDENT-ELECT

First, I would like to say to you that the S. C. Medical Association Officers have had a very busy year. The Council has had more than the usual things coming to their attention and has very wisely had more frequent meetings. An Executive Committee of Council has been appointed that meets and presents its recommendations to the full Council. At times, Council has given the Executive Committee authority to act in its absence.

The Foundation of the S. C. Medical Association has been active during the year, and the President-Elect has participated in the Directors Meeting of this Foundation.

The Permanent Home Committee has presented specific recommendations for the establishment of a Permanent Home for the S. C. Medical Association in Columbia. I have participated in the discussion concerning this project.

Overall, as President-Elect of the Associa-

tion, I have studied the activities of all of the Council, the Executive Office, the financial situation of our society and the Committees of the S. C. Medical Association.

I have given some study of the organization of our Committees, which will be my responsibility, at the Meeting of Council in July 1973. It is my feeling that more specific study and help should be given to our state organization, including the Foundation, Peer Review Committee, and all of the other Committees of the State Association. It is very important to organize along these lines, as best we can, in order to meet the future of the State Association, and also cope with the national programs.

If I have an objective for the year 1973-1974, it would be to increase our organization down to the grass roots. Starting from the Council to the Councilors of each District, and then to the County Medical Societies. In this way we will be together when any national crisis arises such as the National Health Insurance Program. The Peer Review Committee has been doing excellent work. When the Foundation is established and begins to function, it will represent the S. C. Medical Association with the various organizations, such as the Governor's Council on Medical Care, the Department of Social Services, (being the Carrier for Medicaid) and with Blue Cross-Blue Shield, (being Carrier for Medicare). It should not be forgotten that the Comprehensive Medical Program directed by the State Board of Health is a vast organization that doctors should be knowledgeable about and, where possible, help direct. Note — with the present legislative bill, the State Board of Health may not be re-organized as we have known it in the past.

I attended the AMA Convention in Cincinnati and sat in the House of Delegates Meeting to see what the trend nationally is. I attended the AMPAC Workshop in Washington in March. It is interesting to meet with physicians around the country who tell us that they cannot get appointments with their Senators or Representatives to discuss medical care. We had lunch with our National Delegation and it is good to report

that they say, "What can we do for you?"

I believe that our approach to the General Assembly in this state, with some of the successes in the past election, puts us in a better position with our own Legislature, but I believe that this effort should be continued and also increased wherever it is possible.

I look forward to becoming President of this great organization and to work with a very dedicated group on the Council of the S. C. Medical Association to carry out together the responsibilities that are ours.

If it is appropriate, I would like to commend a recent editorial in the March Recorder published by the Columbia Medical Society. This editorial was written by Dr. Edmund R. Taylor, Editor. It says what I have been feeling as I try to prepare for the coming years as President. The Council of the S. C. Medical Association is really the governing body and I know that they are doing a wonderful job for you. As President, I hope to cooperate with them and do anything they recommend that will help in our State Organization. Concerning the editorial of Dr. Taylor, I have already given specific study to some of the Committee Appointments for the coming year, and have written to the Chairman of each to give me a confidential report of the workings of the various committees. I have asked them to state the men who are interested in doing committee work and those that aren't. When I receive this information, I plan to turn it over to the Councilors of each district that the nominees are to come from and let them study the situation and make recommendations for appointments. In this way, I hope we will come up with committees that will function well. Perhaps there is room for complete revision of the committees; some committees should be abolished and others should be strengthened. I am especially anxious to help with the Emergency Care Committee and also the Peer Review Committee, because I believe these two committees will be the bulwark of the Medical Profession in the next few years.

I would like to recommend as President-Elect that a study be given to recommenda-



tions made by Dr. Taylor.

First, specific Committee recommendations are: Pick men who are interested and knowledgeable in the field.

Second, have more than one General Medical Meeting each year or with the General Meeting as it has been and perhaps another meeting of the House of Delegates in mid-winter as a business meeting. I believe if this can be done that men in the grass roots will take more interest in their State Association.

Third, as has already been stated, present committee work down through our state and local societies and publications. Again, this is to bring the men in our local medical societies into the main stream of the medical association work so that we will be better able to cope with the difficult years that lie ahead of the Medical Profession both nationally and in our state.

Public Law 92-603, which is better known as the HR-1 Bill with the Bennett Amendment, or in other words the Professional Standards Review Organization (PSRO), was passed last October. This is the most far reaching bill (connected with Medical Care in this country) that has ever been passed. Some of the experts say it is more far reaching than Medicare which we have had for some 7½ to 8 years. It is something that none of us wanted, and there is a difference of opinion of how we should react. A minority of doctors believe this amendment was designed to take punitive action against doctors and other health providers. Other physicians who have made intensive studies state that they think that this is the last desperate effort to allow physicians to have something to do with their own medical services. I believe we should back our Medical Foundation and urge them to get prepared and to obtain PSRO for the Foundation. In all states medical groups will be given an opportunity to set up the PSRO Organization. If they do not do so by 1976, the Secretary of Health, Education, and Welfare is given the authority to set up his own from any group he chooses, professional or non-

professional. It has been said by some of the authorities in Washington that if an adequate Peer Review system is established HEW may leave it as we have established it. So in this connection, I would urge that our Peer Review Committee be given full support of the S. C. Medical Association and urge them to set up their organization as the Peer Review of the S. C. Medical Association Foundation. There seems no way for non-compliance.

A short time ago I was at the AMPAC Meeting in Washington and had lunch with our State Delegation, Senator Thurmond and three of the Members of the House. I was surprised that Senator Thurmond did not know that we have a Mediation Committee. In the course of conversation, he stated that he had received criticism of doctors from his constituents in this state and that he was happy to know that we had a Mediation or Grievance Committee. He gave the impression that he would tell the people who were making complaints that they could carry any complaints that they have about a doctor from the County Medical Society on through to the state level and Mediation Committee. I know that it has been the feeling of some that we should not publicize this Committee for fear that it would be an invitation for people to complain of a great many things that are not factual. However, after talking to the Senator and Congressmen, I would like to urge that our Association make a policy of publicizing that we do have a Mediation Committee where the true criticisms will be aired through our Association.

We should organize from grass roots up and present a United Front in the face of the many things that are being planned for us by Washington.

This is an analysis of my activities during the past year as President-Elect and also some suggestions for the coming year.

Harold P. Hope, M. D.  
President-Elect



## REPORT OF THE CHAIRMAN OF COUNCIL

The year 1973 has been an exceedingly trying one, but in many ways a rewarding one, for the Council of the South Carolina Medical Association.

First, I would like to pay tribute to one of the finest group of men with whom I have had the pleasure of associating, the members of Council of this association who you elected to represent you during the larger portion of the year. Council Meetings consist of long tedious hours of discussion and debates with the use of judgment and ability and the sacrifice of time, our most precious commodity.

To facilitate the functions of Council and to better represent your organization, we not only instituted quarterly full Council Meetings but also monthly meeting of a new executive committee of Council consisting of the Chairman of Council, President, Secretary and Treasurer of the South Carolina Medical Association.

These monthly meetings have been extremely helpful in expediting less important items of business and giving people we deal with answers without waiting 3 months. The action of the Executive Committee is subject to full council approval or rejection.

The use of conferences with such organizations and 3rd. parties as DDS, Members of the Governors Staff, State Board of Health, and Blue Cross and Blue Shield has been most helpful in bringing about better understanding of problems and improved communications.

Establishing the headquarters of the South Carolina Medical Association in Columbia was approved by the House of Delegates to take place by 1975 and this has progressed under the able leadership of Dr. Frank Owens and Dr. Tucker Weston to the point of the purchase of land next to the Richland Memorial Hospital in Columbia and the proposal intended to be presented to you at this convention by which a building will be constructed that will be in the

image of a vigorous and progressive state association.

The Council completed the disassociation of the SCMA from Blue Shield as directed by the House of Delegates.

Council voted to advise the House of Delegates to increase dues due to the increase in expense and expansion of programs and services for the SCMA members. You cannot run an effective organization that is under financed and we hope you will vote for the increase to have an effective association of which you will be proud.

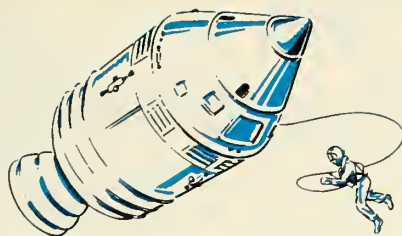
Much thought and discussion has gone to the committee structure of the SCMA and Dr. Hope, the President Elect will expound on this.

Council has had much discussion by the members, of the association taking stands on questions involving the individual physician and as you know the majority of Council voted to endorse the minibottle liquor law as being better than brown bagging.

This may have been right or wrong, but it is the feeling of your Council that we should increase the times the association speaks out, particularly in matters which involve medicine in any way.

The Council this year approved the association sponsoring an Oriental Adventure Seminar Trip as a service to its members and many are taking advantage of it and we hope among other things it will help us to get to know each other better. Along this line we hope in the future to make the SCMA, more and more a service organization for its members.

The legislative year has been busy with members of your Council appearing along with Mr. Meadors and Mr. Pugh and also other members of the association. We feel the institution of the Doctor of the Day Program at the State House has helped us a great deal in improving our relationship with the legislature. The details of the Bills that were of interest to the SCMA will be



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seen in other reports.

Council made the decision to move the convention completely out of the Ocean Forest Hotel, although this will cause some inconvenience, we feel most members will be happy with the move.

Council appointed a membership committee consisting of the Vice President of the association and the two past Vice Presidents. Under the leadership of Dr. Kenneth Owens, this committee has been very active. We hope it will have the support of our members on a local level.

Mr. Rick Pugh, Assistant Executive Secretary has resigned and taken a position as Executive Secretary of the Nevada Medical Association. He will be leaving the first of June. We, on the Council, will be sorry to see Rick go since we feel he has done a fine job; however, we wish him well in his new position.

As a result of Mr. Pugh leaving and Mr. Jack Meadors being very close to retirement, the decision was made by Council at its April meeting to hire an Executive Secretary and retain Mr. Meadors as a Consultant. We appreciate the long years of service that Mr. Meadors has given to the SCMA. A Selection Committee for the purpose of seeking a new Executive Secretary will be chaired by Dr. John Hawk.

Chairman of Council accompanied your delegates, Dr. Hope and Dr. Edward Parker to Cincinnati at the winter session of the AMA and after attending the House of Delegates and Reference Committee Meetings my faith in our National Organization was renewed. The AMA in my opinion is in good hands.

Council endorsed seminar programs and conferences during the year, including the Hospital Trustees, Administrators and Physicians Conference in Myrtle Beach in April. We also endorsed a cooperative study with Blue Cross and Blue Shield to test a Uniform Medical Procedure Terminology and Code System as requested by National

BC-BS and the AMA.

On the advice of the Insurance Committee the Council endorsed the up-grading of some of our insurance plans by the Talbert Agency.

Council, feeling we needed professional help in the Public Relations Field, hired Mr. Roy Harrelson's Firm on an hourly basis to advise the association. His aid in planning the convention this year has been excellent and we hope to make more and more use of his talents. We feel that this is one area of glaring weakness and hope this will help us a great deal.

We on Council have heard some rumors that some of our members believe that Council has extended itself past its authority and taken stands it should not have taken. It is my personal feeling that this is not true.

With the House of Delegates meeting only once a year it is necessary that someone speak for the 1800 members of the SCMA the rest of the year; and if we do not speak out the SCMA is not doing its duty to itself or the people of S. C. It is natural that all the members of the SCMA are not going to agree with all the decisions of Council, but neither would they agree with all the decisions of the House of Delegates. All the 16 members of Council are subject to election and vulnerable if their decisions go sour.

It is my opinion this is the time to strengthen our organization to present a united front to those who would be our enemies. We must stop just having crisis oriented programs and actions and start having positive programs and actions. We should not just wait for the Governmental Planners to put forth changes in the delivery of medical care and to take a negative stand, but should bring forth innovations of our own that would maintain free choice of physicians and the free service concept.

Waitus O. Tanner, M. D.  
Chairman of Council

## REPORT OF THE EXECUTIVE SECRETARY

Membership in the Association last year reached a total of 1759. Of this number, 1601 paid dues, there were 26 in the category of Residents and Interns, and 7 Service Members. One Hundred Twenty-five (125) were active members in good standing but exempt from payment of dues under the Bylaws. This total represents a net increase of 14 over the previous year. During 1972 we actually acquired 89 new members. Eighteen members died and 57 were dropped, principally for non-payment of dues.

A large majority of our members also belong to the American Medical Association. Thirteen hundred sixty-one (1361) paid dues to AMA. There were 115 active members, but exempt from dues. Accordingly, there were a total of 1476 of our members who are also members in good standing of AMA. Last year, South Carolina was one of a very few states who concluded 1972 with more members of AMA than in the previous year and a plaque commending your Association for this achievement was presented by AMA at the Leadership Conference, in Chicago, in January.

The record continues good for this year. Up to the present time, 1342 physicians have paid dues to the State Association. Eleven Hundred Thirty-five (1135) members have already paid dues to AMA, just less than the number as of this date last year. It should be recalled that all AMA dues are collected through the State office. This doubles the amount of money which is handled, over that which would be collected if only our State Association dues were involved. All but a very small percentage of the dues to both organizations are collected by the county secretaries and treasurers and remitted by them to the State office, where, in turn, we deduct the State's portion and remit and account to the AMA for the amount belonging to them.

In addition to these amounts, we received last year, \$4,430.00 in contributions to AMA-ERF.

Dues to SocPac also are included on the Association bills, and we received and remitted \$5,570.00 to this organization from 278 members.

On the legislative front, the Association has had two programs which, we believe, have greatly improved our rapport with members of the General Assembly.

One of these — the first-aid station in the lobby of the State House was begun last year. The expressions of approval by the legislators were many; and of their own volition, the General Assembly provided for the payment of the nurses from state funds. The station continues to be sponsored and supervised generally by the Association although we do not bear the expense.

The other is the "Doctor of the Day" program carried out in this session. Members of the Association volunteered to attend at the State House on legislative days, to be available for professional services, if needed. These physicians were introduced to the House each day and had a splendid opportunity to meet the members and become acquainted with legislative procedures. The program was well organized and conducted by Mr. Pugh and the response from physicians over the State was good.

We have been interested in several Bills—none of which has been finally disposed of:

A Bill in the House, which we support, would provide for certification of physician's assistants by the State Board of Medical Examiners, and is the same as the Bill promoted by the Association last year. It has been held up in the Committee on Medical, Military, Public and Municipal Affairs through the efforts of the optometrists to amend it by providing that no member of another licensed profession in the State could be certified as a physician's assistant. A public hearing was scheduled for Tuesday, April 17th.

The Bills creating most interest in the profession are Senate Bill No. 313 and House Bill No. 1677, which are identical and would enact into law Reorganization Plan No. 10



of the State Reorganization Commission. The purpose of the Bill is to abolish the present State Board of Health, its Executive Committee, and the Pollution Control Authority, to combine the two agencies under a S. C. Board of Health and Environmental Control, to be governed by a Board of seven members appointed by the Governor without advice from the medical or other professions. The Bills have the support of the Governor and of the strongest leadership in both Houses. A public hearing in the Senate on the Bill there was scheduled for Wednesday, April 18th.

On the federal level, we have been most concerned with HR-1 (1972) (Public Law 92-603) because of the inclusion therein of the provision for Professional Standards Review Organizations. Under this law, the medical profession has a limited time within which to set up Boards to review quality and availability of medical care. The Bennett Amendment, which provided for PSROs, was strongly opposed by the profession and many members continue to advocate non-compliance now that the law has been enacted.

It has been our responsibility to call the attention of the Council, the Association, and the South Carolina Medical Care Foundation to these provisions and to furnish available information and suggestions as to procedures.

In this connection and otherwise, considerable activity has been devoted during the past year to our duties as Director of the South Carolina Medical Care Foundation. In August, we attended a Seminar, in Denver, devoted to study of methods already being utilized by Foundations in some areas to provide a medium for promoting standards of health and medical care insurance coverage for enrolled groups, to be served by members of the profession under the traditional patient-physician structure and fee for service method of payment.

A short time later, in company with the officials of the Foundation, we attended the national Convention of the American Association of Foundations for Medical Care, at Sea Island, Georgia. Study and further

inquiry were in progress during the Fall, toward involving the Foundation in such activities. With the approval of the Foundation's Directors, we were instrumental in procuring authorization from the Regional Medical Program for a grant of \$10,500.00, to pay the expenses involved in this research and development and, subsequently, a grant of an additional \$1,000.00 for the same purpose. Due to the limitations of the grant, not all of the funds were expended.

Such was the status of the Foundation activities when Public Law 92-603 was adopted. Recognizing the implications of this Act, we recommended to the Foundation's Board that former plans be held in abeyance and, following the action of the AMA's House of Delegates in December, recommended further, immediate investigation of the advisability of preparing for organization of a PSRO. Our recommendations were adopted by the Board and efforts along this line have been continued. In late January we attended the Leadership Conference of AMA, in Chicago, at which the legislation under discussion and PSROs in general were the principal subjects considered. At that time and until the present, the whole area was and is extremely indefinite. Regulations have not yet been promulgated by the Department of HEW concerning the geographical area or number of physicians to be included in a single PSRO. Until that is done, it is difficult to make definite plans in any direction but efforts are directed toward being prepared to be able to comply as soon as possible with such regulations as may be presented. In this connection amendments to the Bylaws of the Foundation have been prepared and presented to the Board for the purpose of making certain changes which we know will be necessary in order for the Foundation to qualify. These proposals are under consideration.

In the further effort to acquaint the leadership in the state with developments in this area, the Program of our Leadership Conference in March was developed entirely around the subject. Included as speakers were Mr. Douglas Richard of the Regional



Office of HEW in Atlanta who explained in as much detail as possible the requirements and implications of the PSRO law; also, the President of an organization already set up for the purpose and sponsored by the Ohio Medical Association, and the Executive Secretary of that State Association discussed the operation there; and a member of AMA's staff reported on developments in Chicago and the progress of the study being made by the AMA's *ad hoc* committee on PSROs.

In addition to the meetings already referred to above, we attended, of course, the Annual and Interim Sessions of AMA's House of Delegates and in connection with the latter, in California, visited Stockton to view the operation of the San Joaquin County Foundation for Medical Care.

Several other meetings considered necessary in connection with our duties were attended including four meetings of the AAMSE Advisory Committee to the Executive Vice President of AMA, where we have had the opportunity and good fortune of discussing with Dr. Howard and leaders

of the staff at AMA, together with executives from over the country, the effect of proposed governmental changes in the economic situation and professional practice of physicians.

At its meeting in January Council gave unanimous approval to the sponsorship by the Association of a foreign tour to the Orient for two weeks this summer. The Tour is arranged by INTRAV of St. Louis, Missouri, which has handled many such tours to the Orient and numerous other areas for medical societies and other professional organizations over the country. Communications, collections of deposit and payments and all other details in connection with the matter are being handled by an efficient member of our staff. Designed as an additional service to members of the Association and their families the trip and the cost are proving most attractive. Approximately 115 have made reservations.

On April 2, 1973, we received the disconcerting news of Mr. Richard Pugh's departure in order to accept a position as

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We have DISPLAYED at every S. C. State Medical Society Meeting since 1921, and advertised CONTINUOUSLY in the S. C. Journal since January 1920 issue.

Executive Secretary of Nevada State Medical Association. His resignation will be effective May 25, 1973. Mr. Pugh, during the not quite three years he has been with the Association, has developed rapidly and, in our opinion, has been effective in contacts with the membership generally, the county societies, related professional organizations and, particularly, in promoting legislative programs of the Association and in developing good contacts with the Legislature. We regret very much to see him leave but are glad for the opportunity thus presented to him to take charge of the executive office of another State Association.

Following on the heels of Mr. Pugh's impending departure, it was somewhat of a shock to be notified at the meeting of Council on April 11, 1973, of the action taken by the body on that day when it was decided to dispense with our services as Executive Secretary. A committee has been appointed to procure a replacement and it is our understanding that this will be accomplished in the near future following which, at an early date, the executive offices will be moved from Florence to Columbia. After

that time, we are informed, your present Executive Secretary will be retained in the capacity of "Consultant" at no reduction in his present compensation until the maturity of the benefits to which he is entitled under the Association's Retirement Plan for its employees.

Thus, it appears that after 28 years, we are presenting our final Report to the House of Delegates and to the Association as your Executive Secretary. We recall with some satisfaction the record of progress of the Association during that period from a small organization of about 900 members with practically no assets to one having about 1800 members and assets of \$230,000.00.

We have, we believe, formed some real friendships among members of the Association which we expect to be continued, and have found during most of the time a real satisfaction in the work. We hope to continue a pleasant association in the new capacity for the additional time to which the Council has formally agreed.

M. L. Meadors  
Executive Secretary

### REPORT OF THE TREASURER

In your packet you will find a condensed report of the treasurer for 1972 plus audited financial statements by Ernst and Ernst, and a more detailed breakdown of several items which are in the audit and in my report.

You will note in the condensed report that we have on the first page a copy of our assets which, incidentally, have been determined through April, 1973, for our investments in the building loan associations, while our Investors Mutual Fund has been calculated at approximately \$80,000.00 as of this past Friday, May 11, 1973.

Further examination of the report reveals that our total revenue for 1972 was \$331,664.08. Of this sum \$162,267.50 was collected for other organizations such as AMA, AMA-ERF, SOC-PAC and some of our county societies, thus leaving a total of \$169,396.58 as South Carolina Medical Association revenue for 1972. Included in our total revenue was

\$7,604.54 which represents dividends and interest reinvested. Also indicated is the figure of \$7,985, which was the amount applied on the purchase of the land for the permanent home.

Expenses of our organization last year amounted to \$168,112.64. However, please note that of this sum, \$4,328.15 was used to fund the South Carolina Medical Care Foundation. Consequently, for the sake of comparison, it becomes evident that when the sum loaned for the purchase of the land plus the sum of dividends and interest reinvested \$7,604.54, reduces our expenses by \$11,932.69, leaving a deficit of \$3,657. Addenda to the report included—breakdown of 1. Other salaries

2. Executive office
3. Committees & Meetings

J. Howard Stokes, M. D.  
Treasurer



## REPORT OF THE EDITOR OF THE JOURNAL

The Journal of the South Carolina Medical Association appeared on a regular monthly basis during 1972. Considering the turnover in editors, this alone was quite an accomplishment. Because a change in jobs required him to leave the state, Dr. R. Buckland Thomas resigned his tenure as editor with the June issue. Editor-Emeritus (and permanent Editor-Laureate) Joseph I. Waring, M.D. was gracious and effective in editing the July, August, and September issues while your present editor was recruited and partially trained. Were it not for the tremendous asset to **The Journal** of the Editor's Assistant, Mrs. Esther Temple, the continuity of the Journal might have been interrupted, so gratitude for her invaluable contribution is hereby expressed.

Scientific material for **The Journal** is now flowing in at a pace that appears sufficient

to maintain the viability of the Journal, after much wailing and beseeching by the Editor. Thanks are given to the South Carolina physicians who have answered this call. Others are invited to do the same.

While **The Journal** seems to be in the pink scientifically, it is indubitably in the red financially. Expenses exceed income by about \$10,000, which is about normal. The SCMA was kind enough again to cover this deficit. It appears to your Editor that **The Journal** could and should be self-sustaining. Some reasons why it is not and some remedies for them will be editorially presented in forthcoming issues of **The Journal**. Keep reading it. I repeat my last request—keep reading your **Journal**. And let me know what you like and don't like. Thank you.

Edward E. Kimbrough, M. D.  
Editor

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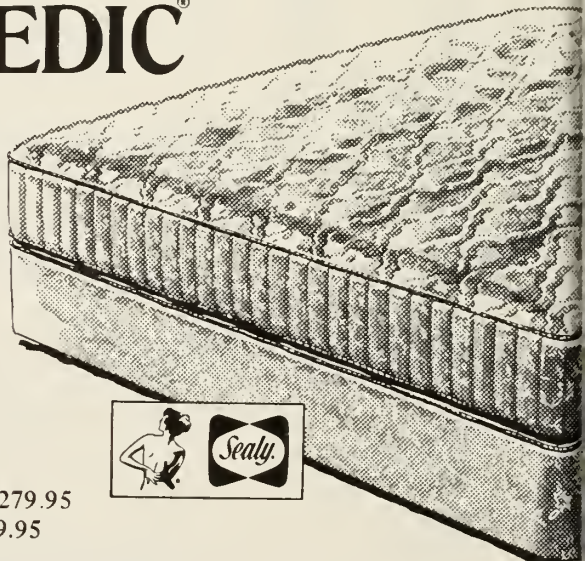
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As announced in last month's *Journal*, **Dr. John E. Walton** has opened an office at 316 Memorial Drive, Greer, for the practice of urology. Dr. Walton also will continue his practice at 24 Vardry Street in Greenville. **Dr. Richard H. Crooks** has announced the association of **Dr. Robert L. Jetton** in the practice of dermatology in Greenville. Dr. Jetton is a graduate of Vanderbilt University Medical School and has been an assistant professor in dermatology at the Medical College of Louisville in Kentucky.

**Dr. Edgar H. Underwood, Jr.** has been appointed to the newly-created post of corporate medical director for Spring Mills. A graduate of the Tulane University School of Medicine and a retired Air Force Brigadier General, Dr. Underwood joined Springs as area medical director for its North Carolina plants and offices in October 1971. He is now based at Fort Mill. **Dr. Curtis P. Artz**, Chairman of the Department of Surgery at the Medical University of South Carolina, has been elected President of the American Trauma Society.

**Dr. Edward L. Hogan** of the University of North Carolina has received a joint appointment as professor and chairman of the Department of Neurology and professor of biochemistry at the Medical University of South Carolina. **Dr. Clay W. Evatt, Jr.** of Charleston has been elected vice president of the Tri-State Medical Association. The outgoing president is **Dr. Angus Hinson** of Rock Hill.

The newly elected officers of the Florence County Medical Association are: **Dr. E. Conyers O'Bryan, Jr.**, President, **Dr. Charles Truluck**, Vice President, and **Dr. A. D. McCutchan**, Secretary-Treasurer. The membership in the Society has increased now to 87 members.

**Dr. James L. Walker of Clinton**, a 1948 graduate of the Medical University of South Carolina, has assumed the presidency of MUSC's Medical Alumni Association. Dr. Walker was installed as president during the Annual Alumni luncheon held in connection with the South Carolina Medical Association annual meeting in Myrtle Beach. He succeeds **Dr. John D. Ashmore, Jr.**, of Greenville, a 1953 MUSC graduate. **Dr. Stanley C. Baker, Jr.**, of Greenwood, a 1952 graduate, was named president-elect. **Dr. Arthur Christakos** of Durham, N. C., was elected vice president. He is a 1955 alumnus. **Dr. Thomas W. Messervy** of Summerville, who received his M.D. degree in 1939, was re-elected secretary-treasurer.

Two surgical residents of the Medical University of South Carolina have received top awards for research presentations at major medical gatherings. The honorees are: **Dr. Bruce D. Baird**, who won the Carl A. Moyer Resident Award from the American Burn Association at its convention in Dallas. **Dr. Edward Richard Howard**, who was given the Jobst Award for his first prize Gold Paper at the Surgical Forum of the Southeastern Surgical Congress in New Orleans. Dr. Baird has worked on a project using a fragment of a special antibody to prolong the survival of skin allografts in burned rats. The work, supported by the Veterans Administration, was done in the surgical research laboratories of the Charleston VA Hospital in consultation with Dr. Andrew M. Munster. The paper he delivered was entitled "The Use of Immunological Enhancement in Experimental Skin Transplantation for Burns." Dr. Howard, a Fulbright Scholar from London, England, studied the enzyme chemistry of Hirschsprung's Disease, a congenital abnormality

of the bowel. He determined that there was a complex abnormality of the nerve supply in the lower wall of the bowel, and that the

difference in the number of nerves in various patients may explain the variation in severity of clinical signs.



E. Kenneth Aycock, M.D., M.P.H.  
Secretary and State Health Officer

## STATE BOARD OF HEALTH NEWS

### STATE LABORATORY MANUAL

The second edition of the manual of the Bureau of Laboratory Services and Research has recently been published. Unlike the first edition which was distributed only to laboratories and county health departments, the second edition was also distributed to all practicing physicians.

The purpose of the manual is to acquaint the laboratorians and physicians with the scope of services available at the State Board of Health Laboratories and to guide them in submitting the proper specimen for diagnostic studies. The manual lists the **tests available**, the appropriate manner in which to **submit** specimens for the suspected disease entity and, in certain examinations, a guide to the **interpretation** of the results.

The manual contains an ORGANIZATIONAL CHART of the Bureau which can serve as a guide for those requesting information regarding specific tests. A section in the first part describes the standard diagnostic METHODS which are used in this laboratory.

A section in the back of the manual discusses the PROFICIENCY TESTING program of the Bureau. The programs in parasitology, bacteriology, mycology, syphilis

serology and phenylketonuria testing are described. In addition, there is a list of the reference laboratories which participate in our program and serve as the verification that these specimens have survived transportation through the United States Postal Service.

A list of technical TRAINING FILMS designed for laboratory personnel is included. These are 8 mm cassette films designed for use with a Fairchild Projector. Both the films and the Fairchild Projector are available on loan from the Bureau.

Finally, the last two pages contain a SUGGESTION FORM regarding the manual and the laboratory services offered by the State Board of Health. These pages can be removed from the manual and returned to us. Your suggestions and constructive criticisms would be appreciated.

The manuals were mailed in April 1972. If you have not received a copy and desire to have one, please write to the Bureau of Laboratories. Although the newsletter is mailed to any individual requesting it, due to the cost involved, we would appreciate it if each individual does not request a copy of the manual. One copy in each laboratory or physician's office should be sufficient.

## MEETINGS

### TENNESSEE VALLEY MEDICAL ASSEMBLY

Read House, Chattanooga, Tennessee  
October 1 - 2, 1973

Paul E. Hawkins, M.D., Chairman  
960 East Third Street  
Chattanooga, Tennessee 37403

The University of Miami School of Medicine, Department of Otolaryngology, is presenting a postgraduate course entitled "Otolaryngology for the Family Practitioner." The course will be held October 26-27, 1973, at the Playboy Plaza in Miami, Florida and it is accredited by the AAGP. For information write:

#### November 1-3, 1973

Florida Industrial Health Conference and  
Southeastern Industrial Health Conference,  
Holiday Inn — Downtown, 111 West Fortune  
Street, Tampa, Florida.

For information: Eugene L. Horger, M.D.,  
IBM Corporation, 85E002, 2000 51st Street,  
Boca Raton, Florida 33432.

Bruce W. Weissman, M.D.  
Assistant Professor  
Department of Otolaryngology  
University of Miami  
School of Medicine  
P.O. Box 875, Biscayne Annex  
Miami, Florida 33152

Conference title: CANCER, AN INDUSTRIAL MEDICINE SEMINAR

Conference date: September 21, 1973, 9 a.m. registration  
4:30 p.m. adjournment

Place: The Carolina Inn, Columbia, S. C.

Objectives: 1) Elevation of the awareness of cancer among occupational health and personnel management in South Carolina industry.

2) Explanation of the ACS program in cancer education and materials and personnel available to assist industry in an employee program.

3) Presentation of some current South Carolina industry programs in cancer education and control.

Cost: \$6.00 registration covers seminar luncheon and evening banquet (for those wishing to remain and attend Annual Meeting Banquet of the South Carolina Division, Inc. Banquet speaker to be Marlin Perkins of NBC's **Wild Kingdom**).



## DEATHS

### DR. T. G. HALL

Dr. Thomas Gaston Hall, 79, of Westminster died April 5 at the Oconee Memorial Hospital. Dr. Hall was a practicing physician in Westminster for 50 years. He was past president of the Oconee Medical Society and a past member of the South Carolina State Board of Health and the American Red Cross. He was also area surgeon for the Southern Railway and had served as Commissioner to the General Assembly in 1943.

### DR. W. L. McILWAIN

Dr. William Lewis McIlwain, 69, died in Meridan, Mississippi, on April 22. Dr. McIlwain opened his practice in Belton in 1931 and continued to practice general medicine in Belton until his retirement in 1971. He was a member of the Anderson County, the state and the American Medical Associations. He served as president of the Piedmont Clinical Assembly.

### DR. C. M. GRAHAM

Dr. Charles M. Graham, 68, died April 29 at his Clio office of an apparent heart attack. Dr. Graham had graduated from the Jefferson Medical College in Pennsylvania and had practiced medicine in Clio for 40 years. He was a member of the Pee Dee and Marlboro Medical Societies, the American Medical Association and the South Carolina Medical Association.

### DR. J. E. LYTLE

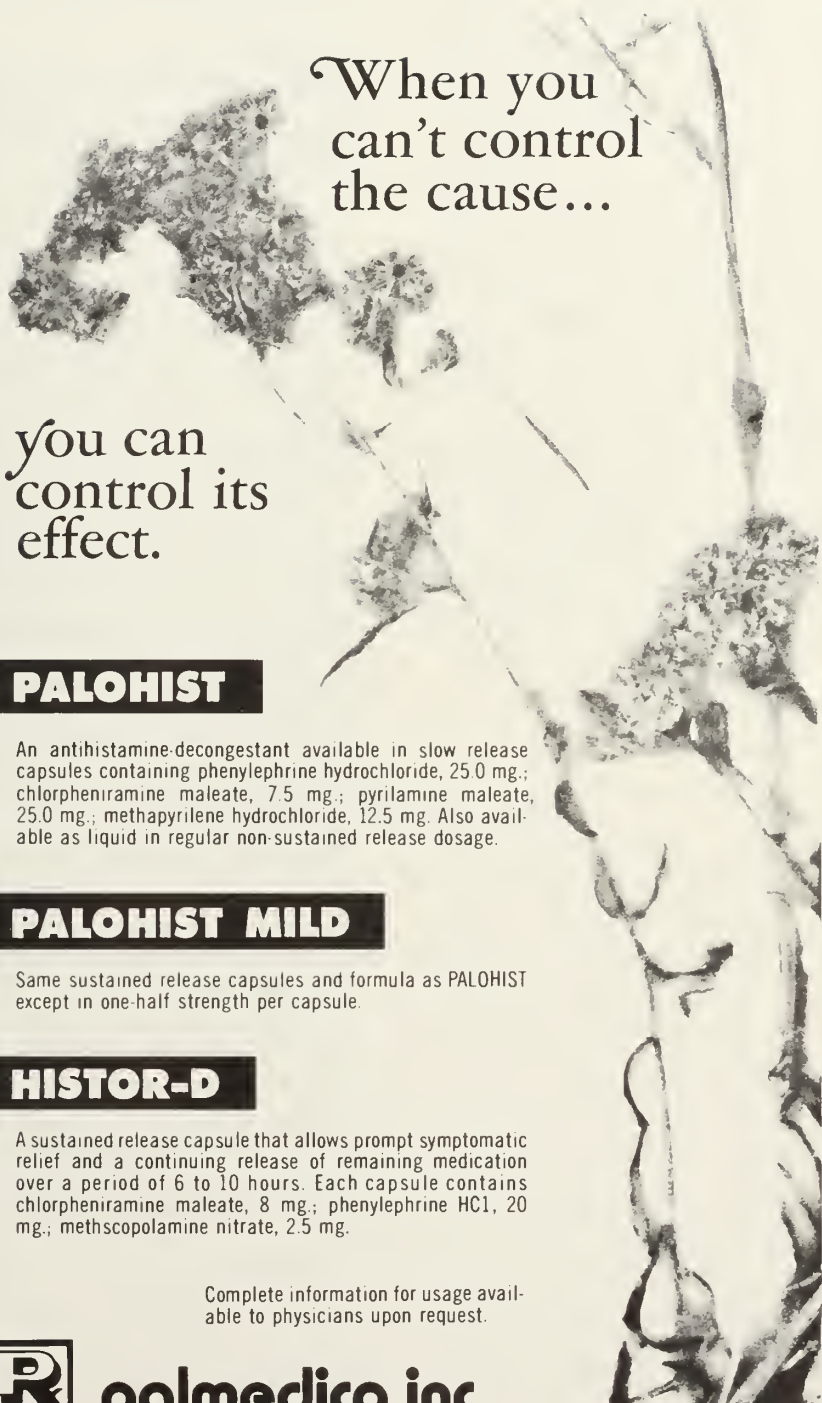
Dr. John Ervin Lytle, 33, died May 4 at his residence in Rock Hill. Dr. Lytle graduated from the Medical University of South Carolina. After spending some time in service, he began the private practice of radiology in St. Petersburg, Florida, later moving to Rock Hill.

### DR. W. C. BALLARD

Dr. William C. Ballard, 73, head of the Pinellas County Health Department, Florida, for nearly a decade, died May 14. Born in Rock Hill, Dr. Ballard graduated from the Medical University of South Carolina. After practicing in Rumson, New Jersey, for twenty years, he moved to St. Petersburg, Florida, where he instituted a pioneering emergency psychiatric service that attracted nationwide attention.

### DR. R. S. MATTHEWS

Dr. Rudolph Samuel Matthews of Columbia died on May 22 in the Baptist Hospital after a brief illness. Dr. Matthews was a graduate of the Medical University of South Carolina and interned at Roper Hospital. He joined the staff of the South Carolina State Hospital as assistant physician in 1936. He served in World War II, joined the Veterans Administration Regional Office in 1946 and retired in 1969.



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## Book Review

THE HISTORY OF NEWBERRY COUNTY, SOUTH CAROLINA by Thomas H. Pope. Volume One: 1749-1860. Columbia, S. C.: Published by the University of South Carolina Press, 1973, xvii, pp. 389. \$17.95.

In this first volume of the two planned to cover the whole history of Newberry County, the author has written of the many aspects of the antebellum period. He has included a wealth of information in the text, with tables and appendices to round it out.

Anyone interested in the history of South Carolina will find this a very substantial book. Especially should medical people find much meaty matter in Chapter 21 on Antebellum Medicine, 33 pages of description of the affairs of medicine in Newberry County before the War. Numerous names and events are included to make a very worthwhile contribution to the medical history of our state.

J.I.W.

# Rondomycin<sup>®</sup> (methacycline HCl)

**CONTRAINDICATIONS:** Hypersensitivity to any of the tetracyclines.

**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

**Usage in pregnancy.** (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in premature infants given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS: Gastrointestinal** (oral and parenteral forms) anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes, exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

**Renal toxicity:** rise in BUN apparently dose related (See **WARNINGS**).

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands, no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE: Adults**—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea. In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

**SUPPLIED:** 'Rondomycin' (methacycline HCl): 150 mg and 300 mg capsules; syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 6/73



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CRANBURY, NEW JERSEY 08512



Executive Secretary of Nevada State Medical Association. His resignation will be effective May 25, 1973. Mr. Pugh, during the not quite three years he has been with the Association, has developed rapidly and, in our opinion, has been effective in contacts with the membership generally, the county societies, related professional organizations and, particularly, in promoting legislative programs of the Association and in developing good contacts with the Legislature. We regret very much to see him leave but are glad for the opportunity thus presented to him to take charge of the executive office of another State Association.

Following on the heels of Mr. Pugh's impending departure, it was somewhat of a shock to be notified at the meeting of Council on April 11, 1973, of the action taken by the body on that day when it was decided to dispense with our services as Executive Secretary. A committee has been appointed to procure a replacement and it is our understanding that this will be accomplished in the near future following which, at an early date, the executive offices will be moved from Florence to Columbia. After

that time, we are informed, your present Executive Secretary will be retained in the capacity of "Consultant" at no reduction in his present compensation until the maturity of the benefits to which he is entitled under the Association's Retirement Plan for its employees.

Thus, it appears that after 28 years, we are presenting our final Report to the House of Delegates and to the Association as your Executive Secretary. We recall with some satisfaction the record of progress of the Association during that period from a small organization of about 900 members with practically no assets to one having about 1800 members and assets of \$230,000.00.

We have, we believe, formed some real friendships among members of the Association which we expect to be continued, and have found during most of the time a real satisfaction in the work. We hope to continue a pleasant association in the new capacity for the additional time to which the Council has formally agreed.

M. L. Meadors  
Executive Secretary

### REPORT OF THE TREASURER

In your packet you will find a condensed report of the treasurer for 1972 plus audited financial statements by Ernst and Ernst, and a more detailed breakdown of several items which are in the audit and in my report.

You will note in the condensed report that we have on the first page a copy of our assets which, incidentally, have been determined through April, 1973, for our investments in the building loan associations, while our Investors Mutual Fund has been calculated at approximately \$80,000.00 as of this past Friday, May 11, 1973.

Further examination of the report reveals that our total revenue for 1972 was \$331,664.08. Of this sum \$162,267.50 was collected for other organizations such as AMA, AMA-ERF, SOC-PAC and some of our county societies, thus leaving a total of \$169,396.58 as South Carolina Medical Association revenue for 1972. Included in our total revenue was

\$7,604.54 which represents dividends and interest reinvested. Also indicated is the figure of \$7,985, which was the amount applied on the purchase of the land for the permanent home.

Expenses of our organization last year amounted to \$168,112.64. However, please note that of this sum, \$4,328.15 was used to fund the South Carolina Medical Care Foundation. Consequently, for the sake of comparison, it becomes evident that when the sum loaned for the purchase of the land plus the sum of dividends and interest reinvested \$7,604.54, reduces our expenses by \$11,932.69, leaving a deficit of \$3,657. Addenda to the report included—breakdown of 1. Other salaries

2. Executive office
3. Committees & Meetings

J. Howard Stokes, M. D.  
Treasurer

## REPORT OF THE EDITOR OF THE JOURNAL

The Journal of the South Carolina Medical Association appeared on a regular monthly basis during 1972. Considering the turnover in editors, this alone was quite an accomplishment. Because a change in jobs required him to leave the state, Dr. R. Buckland Thomas resigned his tenure as editor with the June issue. Editor-Emeritus (and permanent Editor-Laureate) Joseph I. Waring, M.D. was gracious and effective in editing the July, August, and September issues while your present editor was recruited and partially trained. Were it not for the tremendous asset to **The Journal** of the Editor's Assistant, Mrs. Esther Temple, the continuity of the Journal might have been interrupted, so gratitude for her invaluable contribution is hereby expressed.

Scientific material for **The Journal** is now flowing in at a pace that appears sufficient

to maintain the viability of the Journal, after much wailing and beseeching by the Editor. Thanks are given to the South Carolina physicians who have answered this call. Others are invited to do the same.

While **The Journal** seems to be in the pink scientifically, it is indubitably in the red financially. Expenses exceed income by about \$10,000, which is about normal. The SCMA was kind enough again to cover this deficit. It appears to your Editor that **The Journal** could and should be self-sustaining. Some reasons why it is not and some remedies for them will be editorially presented in forthcoming issues of **The Journal**. Keep reading it. I repeat my last request—keep reading your **Journal**. And let me know what you like and don't like. Thank you.

Edward E. Kimbrough, M. D.  
Editor

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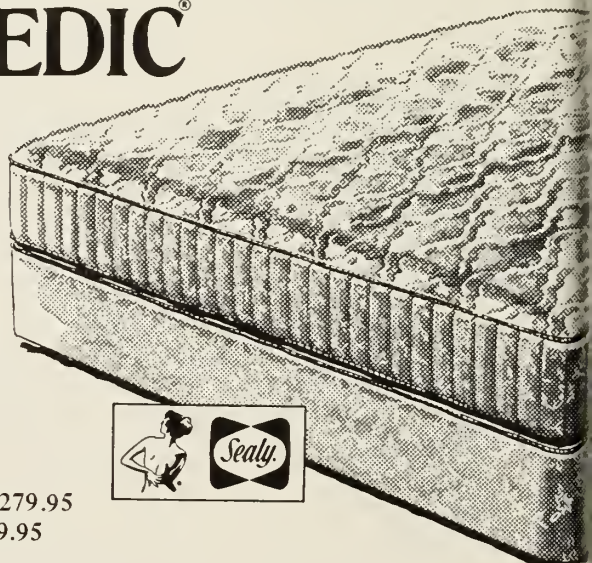
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"sleeping on a Sealy is like sleeping on a cloud"





As announced in last month's *Journal*, **Dr. John E. Walton** has opened an office at 316 Memorial Drive, Greer, for the practice of urology. Dr. Walton also will continue his practice at 24 Vardry Street in Greenville. **Dr. Richard H. Crooks** has announced the association of **Dr. Robert L. Jetton** in the practice of dermatology in Greenville. Dr. Jetton is a graduate of Vanderbilt University Medical School and has been an assistant professor in dermatology at the Medical College of Louisville in Kentucky.

**Dr. Edgar H. Underwood, Jr.** has been appointed to the newly-created post of corporate medical director for Spring Mills. A graduate of the Tulane University School of Medicine and a retired Air Force Brigadier General, Dr. Underwood joined Springs as area medical director for its North Carolina plants and offices in October 1971. He is now based at Fort Mill. **Dr. Curtis P. Artz**, Chairman of the Department of Surgery at the Medical University of South Carolina, has been elected President of the American Trauma Society.

**Dr. Edward L. Hogan** of the University of North Carolina has received a joint appointment as professor and chairman of the Department of Neurology and professor of biochemistry at the Medical University of South Carolina. **Dr. Clay W. Evatt, Jr.** of Charleston has been elected vice president of the Tri-State Medical Association. The outgoing president is **Dr. Angus Hinson** of Rock Hill.

The newly elected officers of the Florence County Medical Association are: **Dr. E. Conyers O'Bryan, Jr.**, President, **Dr. Charles Truluck**, Vice President, and **Dr. A. D. McCutchan**, Secretary-Treasurer. The membership in the Society has increased now to 87 members.

**Dr. James L. Walker** of Clinton, a 1948 graduate of the Medical University of South Carolina, has assumed the presidency of MUSC's Medical Alumni Association. Dr. Walker was installed as president during the Annual Alumni luncheon held in connection with the South Carolina Medical Association annual meeting in Myrtle Beach. He succeeds **Dr. John D. Ashmore, Jr.**, of Greenville, a 1953 MUSC graduate. **Dr. Stanley C. Baker, Jr.**, of Greenwood, a 1952 graduate, was named president-elect. **Dr. Arthur Christakos** of Durham, N. C., was elected vice president. He is a 1955 alumnus. **Dr. Thomas W. Messervy** of Summerville, who received his M.D. degree in 1939, was re-elected secretary-treasurer.

Two surgical residents of the Medical University of South Carolina have received top awards for research presentations at major medical gatherings. The honorees are: **Dr. Bruce D. Baird**, who won the Carl A. Moyer Resident Award from the American Burn Association at its convention in Dallas. **Dr. Edward Richard Howard**, who was given the Jobst Award for his first prize Gold Paper at the Surgical Forum of the Southeastern Surgical Congress in New Orleans. Dr. Baird has worked on a project using a fragment of a special antibody to prolong the survival of skin allografts in burned rats. The work, supported by the Veterans Administration, was done in the surgical research laboratories of the Charleston VA Hospital in consultation with Dr. Andrew M. Munster. The paper he delivered was entitled "The Use of Immunological Enhancement in Experimental Skin Transplantation for Burns." Dr. Howard, a Fulbright Scholar from London, England, studied the enzyme chemistry of Hirschsprung's Disease, a congenital abnormality



of the bowel. He determined that there was a complex abnormality of the nerve supply in the lower wall of the bowel, and that the

difference in the number of nerves in various patients may explain the variation in severity of clinical signs.



E. Kenneth Aycock, M.D., M.P.H.  
Secretary and State Health Officer

## STATE BOARD OF HEALTH NEWS

### STATE LABORATORY MANUAL

The second edition of the manual of the Bureau of Laboratory Services and Research has recently been published. Unlike the first edition which was distributed only to laboratories and county health departments, the second edition was also distributed to all practicing physicians.

The purpose of the manual is to acquaint the laboratorians and physicians with the scope of services available at the State Board of Health Laboratories and to guide them in submitting the proper specimen for diagnostic studies. The manual lists the **tests available**, the appropriate manner in which to **submit** specimens for the suspected disease entity and, in certain examinations, a guide to the **interpretation** of the results.

The manual contains an ORGANIZATIONAL CHART of the Bureau which can serve as a guide for those requesting information regarding specific tests. A section in the first part describes the standard diagnostic METHODS which are used in this laboratory.

A section in the back of the manual discusses the PROFICIENCY TESTING program of the Bureau. The programs in parasitology, bacteriology, mycology, syphilis

serology and phenylketonuria testing are described. In addition, there is a list of the reference laboratories which participate in our program and serve as the verification that these specimens have survived transportation through the United States Postal Service.

A list of technical TRAINING FILMS designed for laboratory personnel is included. These are 8 mm cassette films designed for use with a Fairchild Projector. Both the films and the Fairchild Projector are available on loan from the Bureau.

Finally, the last two pages contain a SUGGESTION FORM regarding the manual and the laboratory services offered by the State Board of Health. These pages can be removed from the manual and returned to us. Your suggestions and constructive criticisms would be appreciated.

The manuals were mailed in April 1972. If you have not received a copy and desire to have one, please write to the Bureau of Laboratories. Although the newsletter is mailed to any individual requesting it, due to the cost involved, we would appreciate it if each individual does not request a copy of the manual. One copy in each laboratory or physician's office should be sufficient.

## MEETINGS

### TENNESSEE VALLEY MEDICAL ASSEMBLY

Read House, Chattanooga, Tennessee

October 1 - 2, 1973

Paul E. Hawkins, M.D., Chairman

960 East Third Street

Chattanooga, Tennessee 37403

#### November 1-3, 1973

Florida Industrial Health Conference and  
Southeastern Industrial Health Conference,  
Holiday Inn — Downtown, 111 West For-  
tune Street, Tampa, Florida.

For information: Eugene L. Horger, M.D.,  
IBM Corporation, 85E002, 2000 51st Street,  
Boca Raton, Florida 33432.

The University of Miami School of Medi-  
cine, Department of Otolaryngology, is pre-  
senting a postgraduate course entitled  
"Otolaryngology for the Family Practi-  
tioner." The course will be held October  
26-27, 1973, at the Playboy Plaza in Miami,  
Florida and it is accredited by the AAGP.  
For information write:

Bruce W. Weissman, M.D.  
Assistant Professor  
Department of Otolaryngology  
University of Miami  
School of Medicine  
P.O. Box 875, Biscayne Annex  
Miami, Florida 33152

Conference title: CANCER, AN INDUSTRIAL MEDICINE SEMINAR

Conference date: September 21, 1973, 9 a.m. registration  
4:30 p.m. adjournment

Place: The Carolina Inn, Columbia, S. C.

Objectives: 1) Elevation of the awareness of cancer among occupa-  
tional health and personnel management in South Carolina  
industry.

2) Explanation of the ACS program in cancer education  
and materials and personnel available to assist industry in  
an employee program.

3) Presentation of some current South Carolina industry  
programs in cancer education and control.

Cost: \$6.00 registration covers seminar luncheon and  
evening banquet (for those wishing to remain and attend  
Annual Meeting Banquet of the South Carolina Division,  
Inc. Banquet speaker to be Marlin Perkins of NBC's **Wild  
Kingdom**).

## DEATHS

### DR. T. G. HALL

Dr. Thomas Gaston Hall, 79, of Westminster died April 5 at the Oconee Memorial Hospital. Dr. Hall was a practicing physician in Westminster for 50 years. He was past president of the Oconee Medical Society and a past member of the South Carolina State Board of Health and the American Red Cross. He was also area surgeon for the Southern Railway and had served as Commissioner to the General Assembly in 1943.

### DR. W. L. McILWAIN

Dr. William Lewis McIlwain, 69, died in Meridan, Mississippi, on April 22. Dr. McIlwain opened his practice in Belton in 1931 and continued to practice general medicine in Belton until his retirement in 1971. He was a member of the Anderson County, the state and the American Medical Associations. He served as president of the Piedmont Clinical Assembly.

### DR. C. M. GRAHAM

Dr. Charles M. Graham, 68, died April 29 at his Clio office of an apparent heart attack. Dr. Graham had graduated from the Jefferson Medical College in Pennsylvania and had practiced medicine in Clio for 40 years. He was a member of the Pee Dee and Marlboro Medical Societies, the American Medical Association and the South Carolina Medical Association.

### DR. J. E. LYTLE

Dr. John Ervin Lytle, 33, died May 4 at his residence in Rock Hill. Dr. Lytle graduated from the Medical University of South Carolina. After spending some time in service, he began the private practice of radiology in St. Petersburg, Florida, later moving to Rock Hill.


### DR. W. C. BALLARD

Dr. William C. Ballard, 73, head of the Pinellas County Health Department, Florida, for nearly a decade, died May 14. Born in Rock Hill, Dr. Ballard graduated from the Medical University of South Carolina. After practicing in Rumson, New Jersey, for twenty years, he moved to St. Petersburg, Florida, where he instituted a pioneering emergency psychiatric service that attracted nationwide attention.

### DR. R. S. MATTHEWS

Dr. Rudolph Samuel Matthews of Columbia died on May 22 in the Baptist Hospital after a brief illness. Dr. Matthews was a graduate of the Medical University of South Carolina and interned at Roper Hospital. He joined the staff of the South Carolina State Hospital as assistant physician in 1936. He served in World War II, joined the Veterans Administration Regional Office in 1946 and retired in 1969.





When you  
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you can  
control its  
effect.

### **PALOHIST**

An antihistamine-decongestant available in slow release capsules containing phenylephrine hydrochloride, 25.0 mg.; chlorpheniramine maleate, 7.5 mg.; pyrilamine maleate, 25.0 mg.; methapyrilene hydrochloride, 12.5 mg. Also available as liquid in regular non-sustained release dosage.

### **PALOHIST MILD**

Same sustained release capsules and formula as PALOHIST except in one-half strength per capsule.

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A sustained release capsule that allows prompt symptomatic relief and a continuing release of remaining medication over a period of 6 to 10 hours. Each capsule contains chlorpheniramine maleate, 8 mg.; phenylephrine HCl, 20 mg.; methscopolamine nitrate, 2.5 mg.

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## Book Review

THE HISTORY OF NEWBERRY COUNTY, SOUTH CAROLINA by Thomas H. Pope. Volume One: 1749-1860. Columbia, S. C.: Published by the University of South Carolina Press, 1973, xvii, pp. 389. \$17.95.

In this first volume of the two planned to cover the whole history of Newberry County, the author has written of the many aspects of the antebellum period. He has included a wealth of information in the text, with tables and appendices to round it out.

Anyone interested in the history of South Carolina will find this a very substantial book. Especially should medical people find much meaty matter in Chapter 21 on Antebellum Medicine, 33 pages of description of the affairs of medicine in Newberry County before the War. Numerous names and events are included to make a very worthwhile contribution to the medical history of our state.

J.I.W.

# Randomycin<sup>®</sup>

## (methacycline HCl)

**CONTRAINDICATIONS:** Hypersensitivity to any of the tetracyclines.

**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

**Usage in pregnancy.** (See above **WARNINGS** about use during tooth development.)

Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in premature given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS: Gastrointestinal** (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

**Renal toxicity:** rise in BUN, apparently dose related (See **WARNINGS**).

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE: Adults**—600 mg daily, divided into two or four equally spaced doses. More severe infections, an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea. In uncomplicated gonorrhea, when penicillin is contraindicated, 'Randomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Randomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

**SUPPLIED:** 'Randomycin' (methacycline HCl): 150 mg and 300 mg capsules, syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 6/73



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**When the focus is on bronchitis due to  
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**Rondomycin<sup>®</sup> 300** mg.  
**[methacycline HCl]** Capsules

**Delivers from the very first dose:**

**Studies show that after the first dose serum levels rapidly rise above  
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You get publications to keep you abreast of medical and health developments. *JAMA*. *American Medical News*. And *Prism*, the new socioeconomic journal.

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BENEFITS AND SERVICES INCREASED

More than one-quarter million South Carolinians have Blue Cross and Blue Shield coverage paying physicians' usual, customary and reasonable fees. Those UCR benefits are determined by each physician's actual charges in 1972.

Now, Medicare is also allowing higher fees as reasonable charges by many physicians, for the 200,000 Medicare beneficiaries in South Carolina. On July 1, the Medicare-approved reasonable charges were increased by 55 per cent of any increase in Medicare's statistically derived customary and prevailing fees during the period from 1970 through 1972.

Claims received July 1 and thereafter are being paid at the new and higher benefit levels.

\* \* \* \* \*

The new Division of Provider Services at Blue Cross and Blue Shield brings together all the formerly fragmented services to physicians, hospitals and nursing homes. Its other new activities include assistance to providers in development of new health care delivery models, work with doctors' office assistants and physician specialty groups to help with claims filing and coding of services, and simplification of claims requirements. It's all together, to serve you.

\* \* \* \* \*

Claims processing and adjudication of payment for physicians' services and medical supplies under the South Carolina Medicaid Program (Title XIX, Social Security Act) is another new service performed by Blue Cross and Blue Shield. For physicians' services rendered to Medicaid beneficiaries on July 1 and thereafter, Medicaid benefits are being paid in amounts the same as the updated Medicare-approved reasonable charges.

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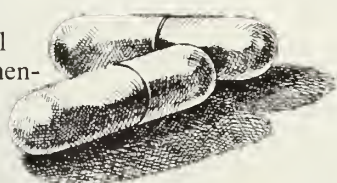




**You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®**

### **Helps reduce anxiety-related G.I. symptoms**

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



### **Patient-oriented dosage — up to 8 capsules daily in divided doses**

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

## **To help relieve anxiety-linked symptoms in gastritis and duodenitis adjunctive Librax®**



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.



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Only **Candeptin** (candidin)  
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a soft gelatin capsule—  
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**CANDEPTIN® (candidin) VAGELETTES™**  
**Vaginal Capsules**... a unique dosage form...  
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CANDEPTIN VAGELETTES Vaginal Capsules provide  
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or inserter... of particular value for the pregnant  
patient... for *intravaginal use*. By cutting off the tip  
of the narrow soft end, the contents can be extruded  
through an intact hymen for *intravaginal use*. And  
it is readily adaptable to *topical application* for  
labial involvement, and/or *intravaginal use* to treat  
mucosal infection.

**CANDEPTIN (candidin) provides:**

## **Rapid results**

Prompt, symptomatic relief—itching, burning,  
and discharge subside in 48-72 hours!<sup>1</sup>

Soothing, miscible ointment permits complete  
contact with affected tissue.

Usually cures in a single 14-day course of therapy.<sup>2,3,4</sup>

## **Safe**

Exact dosage assured.<sup>2,3</sup>

No side effects, clinical reports of irritation or  
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## **Convenience**

Easy to use intravaginally and/or topically  
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Encourages patient acceptance and cooperation.  
Therapy is easy to start in your office.

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CANDEPTIN (candidin) is significantly more potent  
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and Tablets have a clinical record of cure rates  
of 90% and more in pregnant and non-pregnant  
patients.<sup>1,4,6</sup> In recent studies on CANDEPTIN  
VAGELETTES Vaginal Capsules, involving both gravid  
and non-gravid patients, a 100% culture-confirmed  
cure rate was achieved with a single 14-day  
course of therapy.<sup>2,3</sup>

## **Unique**

**CANDEPTIN® (candidin)**  
**VAGELETTES™ Vaginal Capsules**



**Description:** CANDEPTIN (candidin) Vaginal Ointment contains a dispersion of candidin powder equivalent to 0.6 mg. per gm. or 0.06% Candidin activity in U.S.P. petrolatum. 3 mg. of Candidin is contained in 5 gm. of ointment or one applicatorful. CANDEPTIN Vaginal Tablets contain Candidin powder equivalent to 3 mg. (0.3%) Candidin activity dispersed in starch, lactose and magnesium stearate. CANDEPTIN VAGELETES Vaginal Capsules contain 3 mg. of Candidin activity dispersed in 5 gm. U.S.P. petrolatum.

**Action:** CANDEPTIN Vaginal Ointment, Vaginal Tablets, and VAGELETES Vaginal Capsules possess anti-moniial activity.

**Indications:** Vaginitis due to *Candida albicans* and other *Candida* species.

**Contraindications:** Contraindicated for patients known to be sensitive to any of its components. During pregnancy manual Tablet or VAGELETES Capsule insertion may be preferred since the use of the ointment applicator or tablet inserter may be contraindicated.

**Caution:** During treatment it is recommended that the patient refrain from sexual intercourse or the husband wear a condom to avoid re-infection.

**Adverse Reaction:** Clinical reports of sensitization or temporary irritation with CANDEPTIN Vaginal Ointment, Vaginal Tablets or VAGELETES Vaginal Capsules have been extremely rare.

**Dosage:** One vaginal applicatorful of CANDEPTIN Ointment or one Vaginal Tablet or one VAGELETES Vaginal Capsule is inserted high in the vagina twice a day, in the morning and at bedtime, for 14 days. Treatment may be repeated if symptoms persist or reappear.

**Available Dosage Forms:** CANDEPTIN Vaginal Ointment is supplied in 75 gm. tubes with applicator (14-day regimen requires 2 tubes). CANDEPTIN Vaginal Tablets are packaged in boxes of 28, in foil with inserter—enough for a full course of treatment. CANDEPTIN VAGELETES Vaginal Capsules are packaged in boxes of 14 (14-day regimen requires 2 boxes.)

Store under refrigeration to insure full potency.

Federal law prohibits dispensing without prescription.

**References:** 1. Olsen, J.R. *Journal-Lancet* 85 287 (July) 1965. 2. Giorlando, S W *Ob/Gyn Dig.* 13 32 (Sept.) 1971. 3. Decker, A.: Case Reports on File, Medical Department, Julius Schmid 4. Giorlando, S W, Torres, J.F., and Muscillo, G.: *Am. J. Obst & Gynec.* 90: 370 (Oct. 1) 1964. 5. Lechevalier, H *Antibiotics Annual* 1959-1960. New York, Antibiotica Inc., 1960, pp. 614-618. 6. Friedel, H.J.: *Maryland M.J.*, 15:36 (Feb.) 1966.

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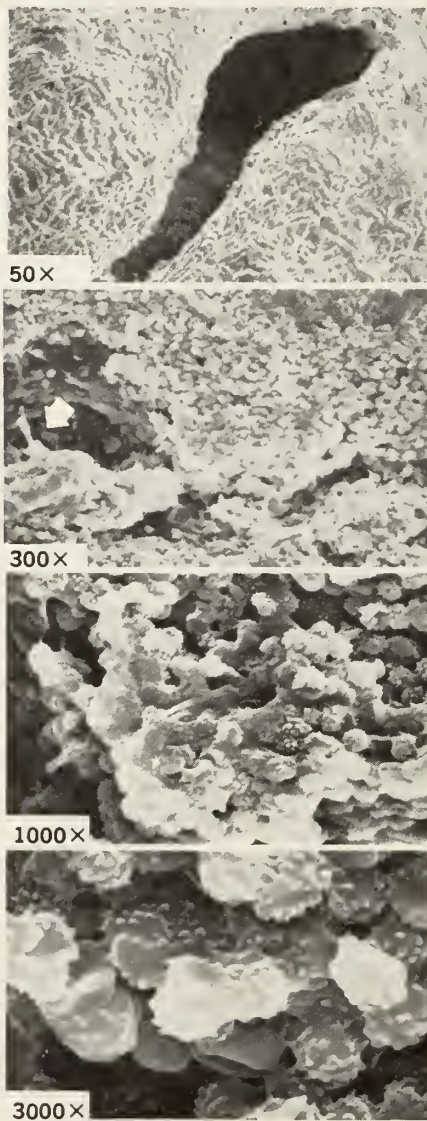
There's a world of things  
we're doing something about . . .



# Progress in Diagnosis

In these illustrations of tissue from a patient with acute cystitis, you can see the swollen and inflamed mucosa of the ureteral orifice (50X), a fibrin strand (300X), and a whitish exudate composed of polymorphonuclear leukocytes (1000X and 3000X). The photographs were taken with the scanning electron microscope (SEM) by Dr. Shirley Siew, Associate Professor of Pathology at the University of Pittsburgh School of Medicine. They come from the clinical exhibit "Scanning Electron Microscopy of Urinary Tract Infection," which won first prize in Clinical Research at the May 1972 meeting of the American Urological Association.

The scanning electron microscope promises to be extremely useful in its investigation of human pathology. In time, examination of tissue with the SEM is likely to play a significant role in the diagnosis of urinary tract infection.



## A note on the photography:

These photographs were made by the scanning electron microscope, which, like the transmission electron microscope, operates on the basic principle of exposure of tissue to a beam of electrons in a vacuum. With the SEM, electrons bombard the surface of tissue which has been given a fine coating of gold. The electrons reflect off the tissue onto a television screen, and the resulting photograph shows a three-dimensional effect. The tissue sections need not be ultrathin, so there is a minimum of handling and distortion.

Just as much an instrument of progress and just as helpful in its way has been Gantrisin (sulfisoxazole) Roche, developed and introduced a generation ago. However, there's been no generation gap over its continuing usefulness. In fact, Gantrisin, with so many years of clinical experience behind it, is still one of the most valuable drugs we have for the treatment of non-obstructed cystitis, pyelitis or pyelonephritis due to susceptible organisms such as *E. coli*. Specifically, Gantrisin provides your patients with certain important therapeutic advantages:

**References:** 1. Bran, J. L.; Karl, D. M., and Kaye, D.: *Clin. Pharmacol. Ther.*, 12:525, 1971. 2. Burke, E. C., and Stickler, G. B.: *Mayo Clin. Proc.*, 44:318, 1969. 3. Hibbard, L. T., in Bulger, M. J., et al.: *Patient Care*, 1:(3) 47, 1967. 4. Holloway, W. J.; Furlong, J. H., and Scott, E. G.: *J. Urol.*, 102:249, 1969. 5. House, T. E., et al.: *Obstet. Gynecol.*, 34:670, 1969. 6. Lampe, W. T.: *J. Am. Geriatr. Soc.*, 16:798, 1968. 7. Moffat, N. A., and Wenzel, F. J.: *Curr. Ther. Res.*, 13:286, 1971. 8. Normand, I. C. S.: *Practitioner*, 204:91, 1970. 9. Pryles, C. V.: *Med. Clin. North Am.*, 54:1077, 1970. 10. Seneca, H.; Peer, P., and Warren, B.: *J. Urol.*, 99:337, 1968. 11. Trafton, H. M., and Lind, H. E.: *J. Urol.*, 101:392, 1969. 12. Cohen, M.: *Pediatrics*, 50:271, 1972.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Nonobstructed urinary tract infections (mainly cystitis, pyelitis, pyelonephritis) due to susceptible organisms.

**IMPORTANT NOTE:** *In vitro* sensitivity tests not always reliable; must be coordinated with bacteriological and clinical response. Add aminobenzoic acid to follow-up culture media. Increasing frequency of resistant organisms limits usefulness of antibacterial agents, especially in chronic and recurrent urinary infections. Maximum safe total sulfonamide blood level, 20 mg/100 ml;

measure levels as variations may occur.

**Contraindications:** Hypersensitivity to sulfonamides; infants less than 2 months of age; pregnancy at term and during the nursing period.

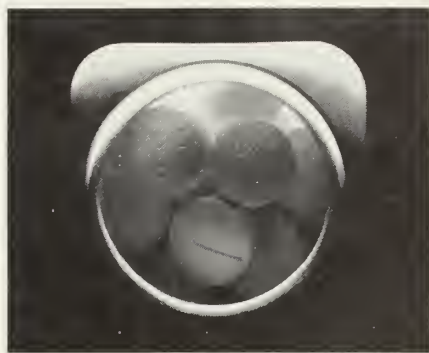
**Warnings:** Safety in pregnancy not established. Do not use for Group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. CBC and urinalysis with careful microscopic

# acute cystitis:

## Treatment

**high urinary levels** As a urinary antibacterial, Gantrisin (sulfisoxazole) offers your patients important advantages. Therapeutic urinary and plasma concentrations are usually reached in from 2 to 3 hours and can be maintained on the recommended 4 to 8 Gm/day dosage schedule that's convenient for almost all patients.

**generally good tolerance** Gantrisin causes relatively few undesirable reactions, and serious toxic reactions are rare. Minor reactions are comparatively infrequent, but may include nausea, headache and vomiting. Hence, Gantrisin may usually be given even for extended periods when treating chronic or recurrent nonobstructed cystitis, pyelitis or pyelonephritis due to *E. coli* and other susceptible organisms. (See Important Note in summary of prod-



uct information.) Complete blood counts and urinalyses, with careful microscopic examination, should be performed frequently.

**high solubility** Gantrisin (sulfisoxazole) Roche is one of the most soluble of all sulfonamides, with both free and acetylated forms highly soluble in the commonly encountered urinary pH range of 5.5 to 6.5. Urine levels have been detected in

60 minutes; therapeutic levels are usually reached in from 2 to 3 hours. About 90% of a single dose is excreted in 24 to 48 hours. As with all sulfonamides, adequate fluid intake must be maintained.

**economy** Average cost of therapy is still only about 6½¢ per tablet.

**total therapy: 14 days** Recent evidence in the medical literature suggests that therapy in acute non-obstructed urinary tract infections should be continued for 10 to 14 days even if patients become asymptomatic in 2 or 3 days, as they often do.<sup>1-11</sup> However, one investigator, evaluating a 5-year study of sulfisoxazole used to treat urinary tract infection in 368 girls, found no advantage in continuing therapy more than two weeks for a first infection.<sup>12</sup>

**For acute, chronic or recurrent nonobstructed cystitis, pyelitis, or pyelonephritis due to susceptible organisms...**

begin with  
**Gantrisin<sup>®</sup>**  
**sulfisoxazole/Roche<sup>®</sup>**

**Usual adult dosage:** 4 to 8 tablets *stat*  
2 to 4 tablets *q.i.d.*

examination should be performed frequently.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy or bronchial asthma. Hemolysis, frequently dose-related, may occur in glucose-6-phosphate dehydrogenase-deficient patients. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *Allergic reactions:* Erythema multiforme (Stevens-Johnson

syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *Gastrointestinal reactions:* Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; *Miscellaneous reactions:* Drug fever, chills and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred. Due

to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Supplied:** Tablets containing 0.5 Gm sulfisoxazole.



Roche Laboratories  
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Nutley, N.J. 07110



## FAMILY PRACTICE REVIEW COURSE

September 24 - 29, 1973

The Board Examinations of the American Academy of Family Physicians will be given on October 20 - 21, 1973. Therefore, The Division of Continuing Education of the Medical University of South Carolina has decided to offer again the Fourth Annual Family Practice Review Course for those who may have missed it in February or who may wish to attend again. Forty (40) AAFP credit hours will be given for attendance at this course. Lectures will be presented at the Sheraton-Fort Sumter Hotel with visits to various units of the Medical University complex for tours and demonstrations. The dates for this repeat course are September 24 - 29, 1973.

Registration is open now through September 10, 1973. Enrollment is limited to 75, and tuition is \$140.00 payable in advance on or before September 10, 1973. A block of rooms has been reserved at the Sheraton-Fort Sumter Hotel at special convention rates. The Social Hour and Banquet on Friday evening is included in this fee. Wives are cordially invited.

A registration desk will be open from 6:30 to 8:30 p.m., Sunday evening, September 23, in the lobby of the Sheraton-Fort Sumter Hotel for the convenience of those participants wishing to complete their registration at that time. Final registration will be at the same place at 8:00 a.m. Monday, September 24.

-----  
Please detach and return

### REGISTRATION FAMILY PRACTICE REVIEW COURSE September 24 - 29, 1973

NAME \_\_\_\_\_ TELEPHONE NUMBER \_\_\_\_\_

ADDRESS \_\_\_\_\_ ZIP CODE \_\_\_\_\_

\_\_\_\_\_ Enclosed is \$140.00 tuition fee for Family Practice Review Course

\_\_\_\_\_ Please send me hotel reservation card

\_\_\_\_\_ I plan to attend Social Hour and Banquet Friday evening

\_\_\_\_\_ My wife will also attend Social Hour and Banquet

Please make check payable to: Division of Continuing Education, MUSC, and mail to Dr. Vince Moseley, Director, Division of Continuing Education, Medical University of South Carolina, 80 Barre Street, Charleston, S. C., 29401.

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**hands** but increased  
blood pressure in  
hemorrhoidal  
veins

#### Precaution

Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects. Symptomatic relief should not delay definitive diagnosis or treatment.

#### Dosage and Administration

Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides.

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to help ease  
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Hemorrhoidal Suppositories with Hydrocortisone Acetate. On your Rx only!  
Each suppository contains hydrocortisone acetate 10 mg; bismuth subgallate 2.25%; bismuth resorcin compound 1.75%; benzyl benzoate 1.2%; Peruvian balsam 1.8%; zinc oxide 11.0%; and boric acid 5.0%; plus the following inactive ingredients: bismuth subiodide, calcium phosphate, and coloring in a bland hydrogenated vegetable oil base containing cocoa butter.

for long-term  
patient  
comfort

# Anusol<sup>®</sup>

Suppositories and Ointment Each suppository or gram of ointment contains the active ingredients of an Anusol-HC suppository minus the hydrocortisone.

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ANGP-34

# How strong must a tranquilizer be for severe anxiety?

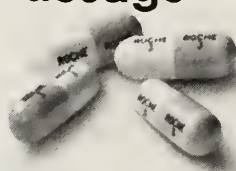
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The achievement of desired therapeutic results is often a function of the dosage strength as well as the drug's intrinsic action. Thus, when anxiety is *severe*, the 25-mg strength of Librium frequently provides the necessary antianxiety action with a minimum of unwanted adverse reactions. Librium 25 mg is a convenient dosage form for the relief of severe, incapacitating anxiety, specifically formulated to supplement your counsel and reassurance.

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For over 13 years, Librium has been recognized for its excellent benefits-to-risks ratio, an asset in the *higher* dosage ranges as in more common clinical applications. Thus, the frequency of dosage with Librium 25 mg can be flexibly adjusted to the needs and response of the individual patient, up to 100 mg daily if required. Total daily dosage for the elderly and debilitated should not exceed 20 mg. When severe anxiety has been reduced, Librium dosage should be correspondingly reduced or discontinued entirely.



basic support  
in severe anxiety  
**Librium® 25 mg**  
(chlordiazepoxide HCl)  
1 capsule t.i.d./q.i.d.



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Boston  
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Exchange Office

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.



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## **Two forms of Cordran<sup>®</sup>** **Flurandrenolide**



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Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counseling



and a few may need counseling  
*and* the psychotropic action of Valium® (diazepam).

Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect.

**Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.



Roche Laboratories  
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Nutley, N.J. 07110

# Valium® (diazepam)

To help you manage excessive psychic tension



# What's on your patient's face...

may be more important than his chief complaint

Patient P.T.\* seen on 3/29/67 shows typical lesions of moderately severe keratoses. Note residual scarring on ridge of nose from previous cryosurgical and electrosurgical procedures.



Patient P.T.\* seen on 6/12/67, seven weeks after discontinuation of 5% FU cream. Reaction has subsided. Residual scarring not seen except that due to prior surgery. Inflammation has cleared and face is clear of keratotic lesions.

\*Data on file,  
Hoffmann-La Roche  
Inc., Nutley, N.J





# The lesions on his face are solar/actinic— so-called "senile" keratoses... and they may be premalignant.

## Solar, actinic or senile keratoses

These lesions may be called by several names, but they usually can be identified by the following characteristics. The typical lesion is flat or slightly elevated, of a brownish or reddish color, papular, dry, rough, adherent and sharply defined. They commonly occur as multiple lesions, chiefly on the exposed portions of the skin.

## Sequence of therapy— selectivity of response

After several days of therapy with Efudex® (fluorouracil), erythema may begin to appear in the area of the lesions; this reaction usually reaches its height of unsightliness and discomfort within two weeks, declining after discontinuation of therapy. This reaction occurs in affected areas. Since the response is so predictable, lesions that do not respond should be biopsied.

## Acceptable results

Treatment with Efudex provides highly favorable cosmetic results. Incidence of scarring is low. This is particularly important with multiple facial lesions. Efudex should be applied with care near the eyes, nose and mouth.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Multiple actinic or solar keratoses.

**Contraindications:** Patients with known hypersensitivity to any of its components.

**Warnings:** If occlusive dressing used, may increase inflammatory reactions in adjacent normal skin. Avoid prolonged exposure to ultraviolet rays. Safe use in pregnancy not established.

**Precautions:** If applied with fingers, wash hands immediately. Apply with care near eyes, nose and mouth. Lesions failing to respond or recurring should be biopsied.

**Adverse Reactions:** Local—pain, pruritus, hyperpigmentation and burning at application site most frequent; also dermatitis, scarring, soreness and tenderness. Also reported—insomnia, stomatitis, suppuration, scaling, swelling, irritability, medicinal taste, photosensitivity, lacrimation, leukocytosis, thrombocytopenia, toxic granulation and eosinophilia.

**Dosage and Administration:** Apply sufficient quantity to cover lesion twice daily with nonmetal applicator or suitable glove. Usual duration of therapy is 2 to 4 weeks.

**How Supplied:** Solution, 10-ml drop dispensers—containing 2% or 5% fluorouracil on a weight/weight basis, compounded with propylene glycol, tris(hydroxymethyl)-aminomethane, hydroxypropyl cellulose, parabens (methyl and propyl) and disodium edetate.

**Cream, 25-Gm tubes—containing 5% fluorouracil in a vanishing cream base consisting of white petrolatum, stearyl alcohol, propylene glycol, polysorbate 60 and parabens (methyl and propyl).**



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# This patient's lesions were resolved with

# Efudex® fluorouracil/Roche®

5% cream/solution...a Roche exclusive

# The Journal of The SOUTH CAROLINA Medical Association

AUGUST, 1973—VOL. 69, NO. 8

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

## Contributions of Original Articles

Mailing address—Edw. E. Kimbrough, M.D., Editor. 2709 Laurel Street, Columbia, S. C. 29204.

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.


Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, *Arch Int Med* 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

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# Opinion & Dialogue

## "Prescription drugs – who should determine the maker?"

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Association



Maker of  
Medicine

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"Too many doctors are indifferent to the economic consequences of their decisions." So stated a recent issue of *Medical News Report* (December 4, 1972), an independent weekly newsletter published by former AMA Chief Executive F. J. L. Blasingame, M.D.

### Doctor, are you indifferent...?

In discussing an anticipated increase in Blue Shield rates, Dr. Blasingame's newsletter had this to say:

"In general, it can be said, MD's have given the impression they are not particularly concerned with the increase in cost of health care to their patients..."

"True, an MD's training is primarily scientific, but in the real world of practice, all of his scientific decisions have a price tag, or an economic impact. The economics of health care beckon the practitioner's attention. Concern for economics of medicine

When the pharmacist recommends that a drug product other than the one ordered be dispensed, the prescriber invariably permits the change when he feels the best interests of the patient will be served.

### Shortcomings of Pro-Substitution Argument

The fact remains that it is necessary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, the unilateral decision of the pharmacist, made in the absence of clinical knowledge of the patient, could expose him to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothing in the pro-substitution argument that offsets these risks.

### The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledge about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degree, puts him at a disadvantage. Most often, a practicing physician will need expert knowledge of no more than 25

should be an obligation of medical practice...

"Medical societies ought to conduct continuing campaigns to point out the substantial savings that could be realized thru deductible insurance and protection for catastrophic illness. At the very least, they should, in the patients' interest, question the tactics of any insurance organization that raises health care costs by forcing policyholders to buy insurance they may not need or want and probably won't ever use.

"Too many doctors are indifferent to the economic consequences of their decisions. Too many, for example, habitually hospitalize patients for the convenience of the MD. It's nonsense to deny such habits exist...

"Doctors, thru their medical societies, have unhesitatingly appealed to their patients for support in the fight against government interference with the private practice of medicine. And the public in the past has responded. It's time the American Medical Association and state and local medical societies paid off the debt by decisive action to hold down the cost of medical care."

### Cost of Drugs

Insurance rates and hospital charges are only two factors in health

care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists are concerned. Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

### Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining

high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

### APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

*(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)*

or 30 drugs that he selects to treat the majority of conditions encountered in his practice. Moreover, the physician's choice of a specific brand is based on his knowledge of the patient's medical history and current condition, and his experiences with the particular manufacturer's product.

Some substitution proponents have argued that the dispensing of a prescription is a simple two-party transaction between the pharmacist and the patient, and that a substituting pharmacist may avoid even a technical breach of contract by simply notifying the patient that he is making the substitution. I would judge that few courts would be sympathetic toward a pharmacist who substituted without physician approval and who undertook a legal defense that seeks to make the patient responsible for the pharmacist's actions.

### Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests

the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

### Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

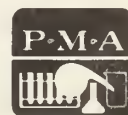
### Summary

In short, what the American Pharmaceutical Association advo-

cates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

*(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)*

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*Prophylactically*, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

**CONTRAINDICATIONS:** Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

**PRECAUTION:** As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

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Clinical observation and photos by Kathleen Brough Oldham, M.D., Marion County Home, Indianapolis, Ind.

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(Ulcer being irrigated)  
Thoroughly cleanse and irrigate the wound area using only sterile water or sodium chloride solution. Be sure to cleanse the wound of any antiseptics or heavy-metal antibacterial agents which may interfere with the enzyme activity.



Thoroughly soak the wound area. Where practical, tubbing or showering is suitable. Or wet soaks with gauze pads may be used. Remember to avoid chemical cleansing agents which may interfere with the therapy.



With a sterile cotton swab or finger cot, apply a very thin layer of TRAVASE Ointment. The ointment spreads easily and only a small amount is needed (a small dab of ointment will cover an area as big as the back of a hand).

Be sure, though, to rub the ointment well into every crack or crevice of the wound and overlap the surrounding skin one-fourth to one-half inch beyond the area to be debrided—to be sure of complete coverage.



Apply loose, wet dressings, thoroughly soaked in sodium chloride solution or sterile water to the area to be debrided only.



Cover the moist dressings with an occlusive wrap (Saran wrap, Telfa Pads, or other plastic wrappings) to keep wound site moist. Do not extend occlusive wrap over 1/2 inch beyond area to be debrided.



When changing dressing, gently wipe away the dissolved material. Repeat the complete dressing procedure, including application of TRAVASE Ointment, four times daily.

The ulcer shown in these photos is simulated on a model in order to demonstrate the correct TRAVASE application technique.

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At body temperatures these proteolytic enzymes have optimal activity in the pH range from 6.0 to 6.8.

**INDICATIONS:** For wound debridement, TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:

- Second and third degree burns,
- Decubitus ulcers,
- Incisional, traumatic, and pyogenic wounds,
- Ulcers secondary to peripheral vascular disease.

**CONTRAINDICATIONS:** Application of TRAVASE (brand of sutilains) Ointment is contraindicated in the following conditions:

- Wounds communicating with major body cavities,
- Wounds containing exposed major nerves or nervous tissue,
- Fungating neoplastic ulcers,
- Wounds in women of child-bearing potential—because of lack of laboratory evidence of effects of TRAVASE upon the developing fetus.

**WARNING:** Do not permit TRAVASE Ointment to come into contact with the eyes. In treatment of burns or lesions about the head or neck, should the ointment inadvertently come into contact with the eyes, the eyes should be immediately rinsed with copious amounts of water, preferably sterile.

**PRECAUTIONS:** A moist environment is essential to optimal activity of the enzyme. Enzyme activity may also be impaired by certain agents. In vitro, several detergents and antiseptics (benzalkonium chloride, hexachlorophene, iodine, and nitrofurazone) may render the substrate indifferent to the action of the enzyme. Compounds such as thimerosal, containing metallic ions interfere directly with enzyme activity to a slight degree, whereas neomycin, sulfamylon-streptomycin, and penicillin do not affect enzyme activity. In cases where adjunctive topical therapy has been used and no dissolution of slough occurs after treatment with TRAVASE Ointment for 24 to 48 hours, further application, because of interference by the adjunctive agents, is unlikely to be rewarding.

In cases where there is existent or threatening invasive infection, appropriate systemic antibiotic therapy should be instituted concurrently.

Although there have been no reports of systemic allergic reaction in humans, studies have shown that there may be an antibody response in humans to absorbed enzyme material.

**ADVERSE REACTIONS:** Adverse reactions consist of mild, transient pain, paresthesias, bleeding and transient dermatitis. Pain usually can be controlled by administration of mild analgesics. Side effects severe enough to warrant discontinuation of therapy occasionally have occurred.

If bleeding or dermatitis occurs as a result of the application of TRAVASE (brand of sutilains) Ointment, therapy should be discontinued. No systemic toxicity has been observed as a result of the topical application of TRAVASE Ointment.

## Dosage and Administration

STRICT ADHERENCE TO THE FOLLOWING IS REQUIRED FOR EFFECTIVE RESULTS OF TREATMENT

1. Thoroughly Cleanse and Irrigate Wound Area with sodium chloride or water solutions. Wound **MUST** be cleansed of antiseptics or heavy-metal antibacterials which may denature enzyme or alter substrate characteristics (e.g., Hexachlorophene, Silver Nitrate, Benzalkonium Chloride, Nitrofurazone, etc.).
2. Thoroughly moisten wound area either through tubbing, showering, or wet soaks (e.g., sodium chloride or water solutions).
3. Apply TRAVASE Ointment in a thin layer assuring intimate contact with necrotic tissue and complete wound coverage extending 1/4 to 1/2 inch beyond the area to be debrided.
4. Apply loose wet dressings.
5. Repeat entire procedure 3 to 4 times per day for best results.

## How Supplied

3P3002 TRAVASE Ointment is supplied sterile in one-half ounce tubes (14.2 g.) containing 82,000 casein units of sutilains per gram of hydrophobic ointment base.


The ointment must be stored under refrigeration at 2° to 10° C (35° to 50° F).

\*A casein unit is the amount of enzyme required to produce the same optical density at 275 mμ as that of a solution of 1.5 mcg. tyrosine/ml. after the enzyme has been incubated with 35 mg. of casein at 37° C. for one minute.



FLINT LABORATORIES  
DIVISION OF TRAVENOL LABORATORIES, INC.





# standing

**freed Man's**

**hands but increased  
blood pressure in  
hemorrhoidal  
veins**

#### Precaution

Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects.

Symptomatic relief should not delay definitive diagnosis or treatment.

#### Dosage and Administration

Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides.

Regular Anusol: one suppository in the morning, one at bedtime, and one immediately following each evacuation.

to help ease  
acute symptoms of  
hemorrhoids

# Anusol-HC<sup>®</sup>

**Hemorrhoidal Suppositories with Hydrocortisone Acetate. On your Rx only!**

Each suppository contains hydrocortisone acetate 10 mg; bismuth subgallate 2.25%; bismuth resorcin compound 1.75%; benzyl benzoate 1.2%; Peruvian balsam 1.8%; zinc oxide 11.0%; and boric acid 5.0%; plus the following inactive ingredients: bismuth subiodide, calcium phosphate, and coloring in a bland hydrogenated vegetable oil base containing cocoa butter.

for long-term  
patient  
comfort

# Anusol<sup>®</sup>

Suppositories and Ointment Each suppository or gram of ointment contains the active ingredients of an Anusol-HC suppository minus the hydrocortisone.

**Warner/Chilcott**



Division,  
Warner Lambert Company  
Morris Plains, New Jersey  
07950

ANGP-34



new

# DARVOCET-N<sup>®</sup>

50 mg. propoxyphene napsylate  
and 325 mg. acetaminophen

*Lilly* TABLETS

Additional information available to the profession on request.  
Eli Lilly and Company, Indianapolis, Indiana 46206

300104

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### THE MEDICAL UNIVERSITY OF SOUTH CAROLINA TUMOR REGISTRY

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The Medical University of South Carolina Tumor Registry was begun in July, 1959. Funded by a state grant, the original plan was to establish the registry in Charleston and then to expand it into a central state registry. Malignant Cancer records from the Charleston County Hospital, Roper Hospital, and the Veterans Administration Hospital, all located in Charleston, along with some records from Spartanburg General Hospital are kept in the Medical University Registry. Although the registry has not been expanded to encompass the entire state, other hospitals and agencies around the state such as Richland Memorial in Columbia, York General in Rock Hill, and the State Health Department have developed tumor registries so that coverage is reasonably complete.

The first method of storing cancer records at the Medical University Tumor Registry was the Info-dex Cancer Registry System of filing. In this system, a color code was used for records of patients

with tumors involving the same organ or region, i.e., orange was the color code for the mouth and pharynx region, yellow represented the urinary system, green was used for skin and brain tumors, red was associated with the lymphatic system, grey indicated digestive system involvement, blue was used for respiratory system involvement, and white identified the breast and genital regions. After a worksheet (Form 1) was prepared for each patient from his record, the information was recorded on a card and tagged with the color related to the area involved. A numbering system was used to identify each doctor, and this number was also attached to the card. The back of the card was used for follow-up information. The cards were then filed and an Accession Book was kept. This book was a master list of the patients in the registry. For each tumor region, corresponding color pages were kept with each patient's name and pertinent information. The worksheet was also filed as a back-up record for each patient.

Each month a listing of the malignant cancer cases was sent to the Tumor Registry by the Records Office. The supervisor of the tumor registry, and at that

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\*\*\*Tumor Registry, Medical University of South Carolina

Name

## FORM 1

Street Address				City		State		Reg. No.:
Name of Spouse (if married woman)			Date of Admission:		Date of Discharge:		Hospital:	
Age or Birth date	Sex	Race	Marital Status	Private Non-Private	<input type="checkbox"/> <input type="checkbox"/>	Out Patient In-Patient	<input type="checkbox"/> <input type="checkbox"/>	Hospital No.:

## DIAGNOSIS

## FINAL DIAGNOSIS

(Specify primary site of cancer)

Other primary sites. Yes ☐ No ☐

If "yes", specify \_\_\_\_\_

Basis of Diagnosis:

Autopsy ☐ Histology ☐ X-ray ☐ Clinical Only ☐ Other (Specify) ☐

Histological Diagnosis:

(Pathology Report):

Grade:

Date of Diagnosis

Exfoliative Cytology

State of Disease: Localized ☐ Regional Involvement ☐ Remote Metastasis ☐ Not Applicable ☐ Unspec ☐ In Situ ☐

## HISTORY

Was case positively diagnosed as cancer before this admission?

No ☐ Yes ☐ If Yes, Date: \_\_\_\_\_Has patient been previously treated for this cancer? No ☐ Yes ☐ Recurrence ☐ No evidence of disease ☐

If "yes", specify date, type of treatment, and doctor or hospital

Date: \_\_\_\_\_ Treatment: \_\_\_\_\_

## TREATMENT

Type: Surgery ☐ Radiation ☐ Chemotherapy ☐ Hormones ☐ None ☐ Unknown ☐Patient Refuses Treatment ☐ Other (Specify) ☐Purposes: Curative ☐ Palliative ☐ Diagnosis Only ☐ Unknown ☐

Date and Type of Treatment: \_\_\_\_\_

## CONDITION

Condition at Discharge: Alive ☐ Dead ☐

If Dead, Date of Death: \_\_\_\_\_ Cause of Death: \_\_\_\_\_

Autopsy: Yes ☐ No ☐ Not Stated ☐If Alive: No Clinical Evidence of Cancer ☐ Not free of Cancer ☐ Unknown ☐

## FOLLOW-UP

Name and address of hospital or physician responsible for follow-up: \_\_\_\_\_

**COPY OF ABSTRACT**  
**TO BE PLACED IN PATIENT'S**  
**HOSPITAL CHART.**

Name of person submitting this report: \_\_\_\_\_

**SAMPLE**  
**#2**

**CANCER REGISTRY**  
**ABSTRACT FORM**



## TUMOR REGISTRY

time the only employee, was given permission to remove these records from the Records Office to complete registry records on each patient. The hospital number assigned to a patient was used as the registry number of the patient.

In 1968 the registry received a federal grant and the staff was increased to five. The supervisor of the tumor registry was sent to the M. D. Anderson Hospital Tumor Institute in Houston, Texas, for two weeks instruction in developing and maintaining a tumor registry. As a result of this training, the registry records were filed in a different manner and were totally reorganized. IBM keypunch cards were used to store patient information. A worksheet (Form 2) was completed and IBM cards were punched from this sheet. The cards were then filed in site-numerical order. The worksheets were also filed. Analyses and retrieval of information for monthly and annual reports as well as for specific research projects and patient management were accomplished using an IBM sorter.

This method of storing and retrieving records was used until 1970 when the present computerized system was initiated. The federal grant was terminated that same year, and the staff was reduced to two employees. The registry is now supported by state funds.

Medical Records for the Medical University Tumor Registry Information System are obtained from private patient charts in the Medical University Hospital and Charleston County Hospital and from all patients treated in the Cancer Clinic sponsored by the Medical University. Roper Hospital participated in the registry until 1971. The same worksheet (Form 2) is used for abstracting all of these hospital records. Malignant and benign cases are reported from the Veterans Administration Hospital in Charleston. The VA records are abstracted by a secretary at the VA hospital, while records from the other hospitals are abstracted by the office personnel of the Tumor Registry. Records of

malignant cases from the Spartanburg General Hospital were reported to the Tumor Registry for the years 1968-1970.

To implement this program, a clerk was trained at the Medical University to work at the Spartanburg General Hospital. For two years abstracts were sent to Charleston each month. When federal support was terminated in 1970 this activity was also terminated. There are now approximately 17,500 cases in the Tumor Registry. To complete these records follow-up information is sought (Form 3). Since some patients are unaware that they have cancer, the follow-up form is generally sent to the referring physician. If the patient has discontinued his visits to his doctor, contact may be lost and the status of that patient is listed as unknown. The State Board of Health sends a copy of the state cancer death list each month to the registry and in this way, some of the lost patients are located. Patients receiving treatment at the Cancer Clinic are more or less obligated to return; hence their records are more complete. Follow-up information is obtained for 94 per cent of the patients.

The current tumor registry information system is supported by a computerized multipurpose information processor capable of handling the storage, retrieval, and processing of various tapes of data. The design objectives of the information processor called for all records, regardless of their content to be treated uniformly. Features of the system included the capacity to handle:

- 1) variable record lengths (record length is dependent only on the amount of pertinent information for the specific record)
- 2) variable field lengths (data items of any length may be efficiently handled)
- 3) varying numbers of fields (data bank will accept a record with any number of fields present and file space is not wasted on blank fields)
- 4) flexible data specifications (records

## TUMOR REGISTRY FORM

Col.	1-7	8-10	11-13	14-16	17-18	19	20	21-24	25-27	28	Hospital	Hospital History §	
Tumor Reg. #	Date first seen with tumor	Date last contact, living cases only	Date of Death	Age	Color	Sex	Marital Status	Anatomic Location of Tumor	Histology	Mult. Prim.	Patient's Name	Address	
Month Code	1) Jan. - Sept.	2) Oct.	3) Nov.	4) Dec.	0) W/M	1) M/F	0) Married	1) Single	2) Div. or sep.	3) Wid.	0) Absent		
1-9)	0) Jan. - Sept.	1) Oct.	2) Nov.	3) Dec.	2) N/M	3) N/F	1) Single	2) Div. or sep.	3) Wid.	1) Present at this Hosp.			
32	Patient Status	1) Outpatient	2) Outpatient & Hospital	3) Hospital only	4) Unknown	5) L/M	6) O/M	7) O/F	8) U/M	9) U/F	2) Reported by outside source	Final Tumor Diagnosis (Site & Histology)	
33-35	County of Residence (See Code)	36-38	Occupation (See Code)	39	General Hereditary History of Cancer	40	Same Site	41	General Disease before Admission	42	Serology and Glycosuria		
43	Col.	44	Tumor Treatment Prior to First Time Seen by Hospital Staff Doctor	45	Reason for Treatment Delay	46-47	Duration from 1st Symptom to 1st Visit to Doctor (duration code)	48-49	Duration from 1st Symptom to 1st Visit to Hospital (duration code)	50-51	Duration from 1st Visit to Doctor to 1st Treatment (duration code)	52-53	Duration from 1st Treatment to 1st Hospital Visit (duration code)
54-55	Duration from 1st Symptom to 1st Treatment (duration code)	56	Other Diseases Present or in History	57	Source of Pathology Report	58	Second punch line 57	59	Cytology Test Positive	60	Cytology Test Negative	61	Repeat or Questionable
62	Multiple Cytologies	63	Heart disease	64	No delay	65	Reason not stated	66	Yes	67	No	68	Unknown
69	Diabetes	70	Surgery only	71	Fear	72	Economic reason	73	Negligence	74	Ignorance	75	Colitis
76	Kidney disease	77	Surgery and Radiation (includes radium, isotopes, etc.)	78	Advice from one physician	79	Advice from several physicians	80	Physician(s) unable to prove cancer	81	Other reasons	82	Delay not proven
83	Pulmonary TB - active	84	Radiation only	85	Physician(s) unable to prove cancer	86	Delay not proven	87	Reason not stated	88	Reason not stated	89	Reason not stated
90	Pulmonary TB - inactive	91	Cautery (including Electrocoagulation)	92	Surgery, radiation and cautery	93	Endocrine therapy for cancer	94	Chemotherapy	95	Other treatment	96	Previously treated, treatment not specified
97	Benign tumors	98	Endocrine disturbance	99	Pregnancy occurring within yr. of cancer	100	Viruses present on admission (write in type)	101	Viruses mentioned in history (write in type)	102	Other liver dysfunctions (write in type)	103	Others not listed above (write in type)
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524	Source of Pathology Report	525	No pathology report	526	This Hospital	527	Elsewhere	528	Patient without evidence of cancer at this hospital, previous histopathology confirmed by staff pathologist	529	Patient without evidence of cancer at this hospital, previous histopathology reported by outside pathologist	530	Outside slide diagnosis confirmed by staff pathologist
531	Outside slide diagnosis confirmed by staff pathologist	532	Second punch line 57	533	Cytology Test Positive	534	Cytology Test Negative	535	Repeat or Questionable	536	Multiple Cytologies	537	Heart disease
538	Diabetes	539	Kidney disease	540	Pulmonary TB - active	541	Pulmonary TB - inactive	542	Benign tumors	543	Endocrine disturbance	544	Pregnancy occurring within yr. of cancer
545	Viruses present on admission (write in type)	546	Viruses mentioned in history (write in type)	547	Other liver dysfunctions (write in type)	548	Others not listed above (write in type)	549	Source of Pathology Report	550	No pathology report	551	This Hospital
552	Source of Pathology Report	553	No pathology report	554	This Hospital	555	Elsewhere	556	Patient without evidence of cancer at this hospital, previous histopathology confirmed by staff pathologist	557	Patient without evidence of cancer at this hospital, previous histopathology reported by outside pathologist	558	Outside slide diagnosis confirmed by staff pathologist
559	Outside slide diagnosis confirmed by staff pathologist	560	Second punch line 57	561	Cytology Test Positive	562	Cytology Test Negative	563	Repeat or Questionable	564	Multiple Cytologies	565	Heart disease
566	Diabetes	567	Kidney disease	568	Pulmonary TB - active	569	Pulmonary TB - inactive	570	Benign tumors	571	Endocrine disturbance	572	Pregnancy occurring within yr. of cancer
573	Viruses present on admission (write in type)	574	Viruses mentioned in history (write in type)	575	Other liver dysfunctions (write in type)	576	Others not listed above (write in type)	577	Source of Pathology Report	578	No pathology report	579</	

58	Type of Tumor, Diagnosis and Grade (Double code with $\Delta$ if found at autopsy) Macroscopic Diagnosis X) Not cancer X) In situ 0) Neoplasm, precancerous 1) Neoplasm, Grade I, malignant 2) Neoplasm, Grade II, malignant 3) Neoplasm, Grade III, malignant 4) Grade not stated, malignant $\Delta$ First found at autopsy ----- Clinical Diagnosis Only 5) Neoplasm, benign, x-ray, operative or clinical findings, probably correct 6) Neoplasm, malignant, x-ray, operative or clinical findings, probably correct 7) No evidence of malignancy at hospital-death information says patient died of cancer 8) Neoplasm, malignant, clinical diagnosis only, diagnosis doubtful	62	Treatment by This Hospital 1) Patient received course of treatment 2) Treatment begun, discontinued condition of patient 3) Treatment begun, discontinued, patient's lack of funds, uncooperative or referred to another doctor 4) Patient refused recommended treatment, readmitted and treated after interim treatment elsewhere 5) Patient refused recommended treatment, readmitted and treated after no interim treatment elsewhere 6) Consultation only to confirm diagnosis 7) Patient returned to referring doctor 8) Consultation only, referred elsewhere for treatment, palliation, etc. 9) Consultation only, treatment being given elsewhere to be continued 0) Recommended treatment refused by patient X) No treatment recommended X) Patient too ill to return for treatment $\Delta$ Patient received palliative treatment only	65-66	Duration life, first symptom to date of death or last time seen (duration code) ----- Duration life from time last seen at hospital to death or last time seen (duration code) ----- Freedom from Cancer after 5 yrs. 0) No 1) Yes X) 5 yrs. not elapsed $\Delta$ Unknown
59	Size of Primary Tumor 0) Under 1 cm. 1) 1 cm. 2) 2 cms. 3) 3 cms. 4) 4 cms. 5) 5 cms. and over 6) Multiple tumors $\Delta$ Unknown -) No tumor	63	Type of Surgery 0) No surgery 1) Pre-irradiated surgery 2) Post-irradiated surgery 3) Pre- and post-irradiated surgery ----- 4) Biopsy only 5) Initial surgery before admission to this hospital 6) Initial radiotherapy before admission 7) Radium implant or needle ----- Summary of Treatment 0) No treatment 1) Surgery 2) Radiation 3) Chemotherapy 4) Surg. and rad. 5) Surg. and chemo. 6) Rad. and chemo. 7) Surg., rad. and chemo. Write in Specific Treatment	67-68	Duration life from time last seen at hospital to death or last time seen (duration code) ----- Freedom from Cancer after 5 yrs. 0) No 1) Yes X) 5 yrs. not elapsed $\Delta$ Unknown
60	State of Disease on Admission 0) Early 1) Advanced 2) Post-treated, recurrent on admission 3) Post-treated, no evidence of disease X) Not stated (incomplete record) $\Delta$ Unknown	64	Summary of Treatment 0) No treatment 1) Surgery 2) Radiation 3) Chemotherapy 4) Surg. and rad. 5) Surg. and chemo. 6) Rad. and chemo. 7) Surg., rad. and chemo. Write in Specific Treatment	69	Freedom from Cancer after 5 yrs. 0) No 1) Yes X) 5 yrs. not elapsed $\Delta$ Unknown
61	Metastases 0) No metastases at any time 1) Regional metastases present on admission 2) Regional metastases developed after admission 3) Remote metastases present on admission 4) Remote metastases developed after admission 5) Regional and remote metastases present on admission 6) Regional metastases present on admission, remote developed after admission 7) Regional and remote metastases developed after admission 8) Massive local extension but no proved metastases 9) Recurrence developed after admission-no metastases at any time X) Metastatic picture not clear or not known	70	End Results 0) Living free of cancer at time of follow-up 1) Living with recurrence 2) Living, not stated as to freedom or recurrence 3) Lost track of, without recurrence when last seen 4) Lost track of, with recurrence when last seen 5) Suicide without cancer 6) Living with primary lesion $\Delta$ Lost track of, unknown whether with or without cancer	71	Presence of Cancer at Death 0) Died without cancer 1) Died with initial cancer or metastases 2) Died with another independent cancer X) Patient untraced $\Delta$ Died, unknown whether with or without cancer
62	State of Disease on Admission 0) Early 1) Advanced 2) Post-treated, recurrent on admission 3) Post-treated, no evidence of disease X) Not stated (incomplete record) $\Delta$ Unknown	72	End Results 0) Died from other causes without recurrence of cancer 1) Dead as result of cancer 2) Hospital postoperative death 3) Dead of other causes, cancer found at autopsy 4) Suicide with cancer 5) Accidental death with cancer 6) Dead of other causes, cancer present $\Delta$ Dead of other causes, unknown whether cancer present.	73	Autopsy 0) No 1) Yes $\Delta$ Unknown
63	State of Disease on Admission 0) Early 1) Advanced 2) Post-treated, recurrent on admission 3) Post-treated, no evidence of disease X) Not stated (incomplete record) $\Delta$ Unknown	74	Place of Death 1) This hospital 3) Elsewhere 2) Other hospital 4) Unknown	75	Class 0) Clinic 1) Private



## TUMOR REGISTRY

may contain checklist, computational, or alphanumeric information)

- 5) quality controls (system permits the user to specify that an item is mandatory for admission of the record into the system insuring that all records entered must contain proper identification; range tests may be made for numeric items to eliminate the entry of truly aberrant information; other quality control checks are made on mutually exclusive items).

A simple retrieval language which consists of a series of easily learned English statements permits a user to retrieve selected information from the data bank. Retrieval may consist of the following processes:

- a) the selection of subset of the data which the user wishes to examine
- b) the sorting of selected records into desired sequences
- c) The output of the information in any variety of display formats.

The system permits chosen records to be printed in their entirety or selected data entries listed. Items may be correlated or summarized, tallied or plotted. Fixed format output is available to allow easy input into other statistical analytic pack-

ages and programs. For example, through the information systems, work files may be generated for input into life tables for specific age, sex, race, organ, and cohorts.

The information system permits the retention of all data management responsibilities of research, clinical, and educational retrieval of information within the Tumor Registry. Thus, confidentiality is preserved and accuracy of reports is maintained.

In summary, the Medical University Tumor Registry offers a comprehensive information system which is available

- 1) to the physician for patient management
- 2) to the student as an educational resource
- 3) to the health planner for program and resource planning
- 4) and to the investigator as a research resource.

To give these users easy access to tumor patient information, a simple retrieval language is employed. The user is able to select the subsets of data in which he is interested, the sequence of the data, and an output format from one of many display formats. The user is then able to utilize this information for his own purposes.

HOSPITAL CANCER REGISTRY  
Follow-up Report

Hospital No.:

Doctor:

Patient	Name	Age:	Race:
	Address:	Male: <input type="checkbox"/>	Female: <input type="checkbox"/>
	Site of Cancer:		
	Date last Admission to this Hospital for This Cancer:		
Last Previous Follow-up	Date of Last Previous Follow-up:		
	Source of Information, Last Previous Follow-up:		
	Remarks:		
Present Follow-up	Date of Last Definite Information Regarding this Patient:		
	Source of Last Definite Information Regarding this Patient:		
	Condition of Patient at Time of Last Definite Information: Alive <input type="checkbox"/> ; Dead <input type="checkbox"/>		
	If Alive, Check Status: Free of Cancer <input type="checkbox"/> ; Not Free of Cancer <input type="checkbox"/> ; Unknown <input type="checkbox"/>		
	If Dead Date of Death:	Cause of Death:	Exp. at Home at Hospital
	Name and Add of Hospital		
	List Pertinent Events Relating to this Patient's Cancer Since Last Previous Follow-up:		
	Recurrence of Cancer: (Date)		
	Hospital Admissions: (Dates and Hospitals)		
	Additional Surgery: (Dates and Names of Surgeons)		
Additional Radiation Therapy: (Type, Amount, and Dates)			
Other Additional Therapy: (Type and Dates)			
If under care of another physician, please give name and address of physician:			
Other Comments:			

MAIL TO:

HOSPITAL .....

CITY .....

Medical Case History Bureau, 232 W. 29th St., Hialeah, Fla. Form No. ACS-H

Signature of Reporting Physician

Date This Report: .....

# CONCEPTS OF SCHIZOPHRENIA AMONG MENTAL HEALTH PROFESSIONALS

JAMES E. SEEGARS, JR. AND  
JOHN E. MILLER\*

**Abstract.** One hundred and four mental health professionals (Psychiatrists, psychologists, and psychiatric social workers) representing different places and modes of employment were given a 57 item questionnaire developed by Fitzgibbons and Shearn. Responses to these items were scored to identify the attitudes toward schizophrenia of the professionals on eight dimensions; Interpersonal Etiology, Bleulerian Phenomenology, Disease Concept of Schizophrenia, Poor Prognosis, Poor Understanding of Schizophrenia, Schizophrenia As a Thinking Disorder, Adaptive Symptomatology, and Irreversibility. Significant differences were found among all eight factors and substantiate the doubts cast on the usefulness of the diagnosis of "schizophrenia" cited by various other researchers.

There exists today an exceptional amount of disagreement on the nature of schizophrenia, its etiology, its prognosis, and even its descriptive aspects of phenomenology. A popular psychiatric dictionary (Hinsu and Campbell, 1970) devotes six pages in an attempt to define "schizophrenia." A reading of these pages does not seem to end the confusion centered around the usage of the term, unless one is willing to accept the adequacy of Bleuler's (1950) time honored description. The Diagnostic and Statistical Manual of the American Psychiatric Association (1968) provides little additional help in its description of schizophrenia as "a group of disorders manifested by disturbances of thinking, mood, and behavior." This description continues to explain that a thinking disturbance means an alteration of concept formation that may lead to misinterpretation of reality and implies that the main diagnostic feature of schizophrenia is a "demonstrable" thought disorder.

It would appear then that the Bleulerian description of schizophrenia is still gen-

erally to have some basic validity and explanatory power. Fitzgibbons and Shearn (1972) found that this point of view does not receive widespread support among practicing mental health professionals who are responsible for labeling a person schizophrenic. They also noted the impossibility of arriving at a definition of schizophrenia that would be acceptable to a wide segment of the professional population (cf. Shakon, Altschule, Arieti, Bellak, Grinker, and Menninger, 1970). The unreliability of psychiatric diagnosis, especially the determination of the presence or absence of schizophrenia, which has been repeatedly documented in the literature (Camero, 1970; Jackson, 1960) further shows the lack of agreement surrounding the use of the term. There are many conspicuous examples of difficulties in the psychiatric diagnostic process (e.g. see Jewell), with dramatic evidence reported by Rosehan (1973) and his colleagues who discovered real support for the proposition that the characteristics which lead to diagnoses often reside in the observers and environments rather than in the patients.

The general public expresses no great concern with the issue, perhaps because the responsibility of recognition has been handed over to specialists who possess the professional training and legal sanctions to deal with it. Is it true, then, that the mental health profession is in an uproar over the problem of diagnosing mental illness? There are those who believe that it should be. Szasz (1963) and Rosehan (1973) undoubtedly lead a small chorus of voices in viewing the situation with alarm.

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The conceptual basis from which the present investigation proceeds and that of Fitzgibbons and Shearn (1972) is that schizophrenia is a function not only of the person being labeled schizophrenic, but also of the mental health professional responsible for the labeling. Fitzgibbons and Shearn developed a pool of 57 opinion items referring to beliefs about the cause, prognosis, and descriptive characteristics of schizophrenia drawn from several sources and categorized these items along eight dimensions using factor analysis.

Of the eight factors selected for interpretation, two represent beliefs about the etiology of schizophrenia, two involve the phenomenology of schizophrenia, and two are prognostic factors. The two final factors represent more personal and philosophical ideas about schizophrenia. Samples of items by factor are presented in Table 1.

According to Shearn & Fitzgibbons, factor I reports ideas describing the etiology of schizophrenia as presented by a number of family theories. Included here are endorsements of the double-bind (Bateson, 1956, 1963) theory of disordered patterns of communication, the intrafamily relationships as etiological elements, and in particular, the schizophrenogenic mother. Concurrent with these ideas is the belief that schizophrenia is a learned disorder. This factor was named Interpersonal Etiology.

Factor II emphasizes disturbances of affect, flatness and inappropriateness, disharmony among thought, affect, and behavior, disturbance in the ability to abstract, and the presence of regression and withdrawal. This factor was described as Bleulerian Phenomenology.

Factor III represents the conviction that schizophrenia is a physiological disease entity. Schizophrenia is basically a central nervous system disorder and a disease in the strictest medical sense which develops from a genetic predisposition.

Factor IV is represented by items which describe schizophrenia as characterized by

a deteriorating course and having uniformly poor prognosis.

Factor V is labeled Poor Understanding, and seems to indicate a willingness to confess to a sense of confusion about the nature of schizophrenia. The person endorsing this factor admits to an intuitive diagnosis of schizophrenia and the use of a patient's response to medication as a diagnostic tool.

Factor VI is labeled Schizophrenia as a Thinking Disorder. It describes schizophrenia as characterized by a weakened link with reality and a thinking disorder.

Factor VII is called Adaptive Symptomatology, and is seen as an attempt to preserve relationships with schizophrenic regression as an attempt to reintegrate experiences. Intrapsychic conflicts are seen as etiologically important.

Factor VIII is Irreversibility and proposes that schizophrenia is an irreversible disturbance; "Once a schizophrenic, always a schizophrenic."

#### METHOD

*Subjects.* The subjects consisted of 104 persons drawn from the three mental health disciplines — clinical psychology, psychiatry, and psychiatric social work. Each subject was asked to identify himself by professional discipline and place of employment. Place of employment was defined by the following categories; private psychiatric hospital, state hospital, community mental health center, and miscellaneous (including primarily private practice and academic settings).

*Procedure.* The final pool of 57 opinion items related to the eight factors of schizophrenia was answered by participants chosen entirely within the state of South Carolina. Each item was assigned to one of the eight factors in the same manner as Fitzgibbons and Shearn, and each subject was scored by summing his scores on each item. (The actual score was recorded for positively loaded items whereas a reversed score was recorded for negatively loaded items). Factor scores were computed in such a way that a high score indicates

# CONCEPTS OF SCHIZOPHRENIA

Table 1  
Concepts of Schizophrenia  
Sample Items and Factor Loadings For Each Factor\*

Item	Loading
Factor I: Interpersonal Etiology	
10. Schizophrenia probably develops from the learning of faulty patterns of communication	.856
21. Schizophrenia results from faultily learned patterns of communications.	.843
5. The thought disorder in schizophrenia derives from the disordered pattern of interaction within the family.	.717
6. Schizophrenia is learned.	.639
45. A schizophrenic reaction develops from disturbed interpersonal relationships	.560
Factor II: Bleulerian Phenomenology	
4. Flattened affect is a major diagnostic sign of schizophrenia.	.780
22. The inability to express affect is a major diagnostic sign of schizophrenia.	.654
44. Defects in affectional relationships are basic to schizophrenia.	.468
Factor III: Disease Concept of Schizophrenia	
1. Physiological factors will one day be established as central to the schizophrenic process.	.850
38. Schizophrenia is basically a central nervous system dysfunction.	.716
*Factor Loading & Placement Derived by D. H. Fitzgibbons and C. R. Shearn	
40. Schizophrenia cannot develop without a genetic predisposition.	.712
Factor IV: Poor Prognosis	
3. Schizophrenia is characterized by a deteriorating course.	.723
25. In schizophrenia, prognosis is uniformly poor.	.586
Factor V: Poor Understanding of Schizophrenia	
15. I have called patients schizophrenic without being fully aware of the reasons for my having made that diagnosis.	.556
19. The patient's response to medication can be an effective tool in diagnosing schizophrenia.	.334
Factor VI: Schizophrenia as a Thinking Disorder	
7. Not all schizophrenics suffer from a thought disorder.	-.733
18. The diagnosis of schizophrenia should not be made unless there is evidence of a weakened link with reality.	.660
Factor VII: Adaptive Symptomatology	
16. In schizophrenia, the patient's withdrawal from objects is an attempt to, in some way, preserve object relations.	.755
30. The schizophrenic regresses for the purpose of reintegrating life experiences.	.593
Factor VIII: Irreversibility	
8. Schizophrenia is a reversible disturbance.	-.816
30. Once a schizophrenic, always a schizophrenic.	.757

# CONCEPTS OF SCHIZOPHRENIA

agreement with the factor. Mean scores were compared among disciplines and places of employment. A simple analysis of variance was utilized to detect any significant differences.

## RESULTS

The results are reported in Table 2. Inspection of these results reveal the following significant findings by factors:

- I. Social workers endorse Interpersonal Etiology significantly ( $P<.05$ ) more than both psychiatrists and psychologists, with mental health centers supporting this viewpoint ( $P<.01$ ) more than those in other settings.
- II. Again, social workers support ( $P<.01$ ) Bleulerian Phenomenology more than others and psy-

chologist endorse it least.

- III. Psychiatrists and those in private practice strongly support ( $P<.01$ ) the disease concept of schizophrenia in comparison with others sampled.
- IV. No significance found.
- V. Those in state hospital settings endorsed ( $P<.05$ ) Poor Understanding of Schizophrenia least with private sectors supporting it most.
- VI. Employees of state hospitals report schizophrenia to be a Thinking Disorder significantly more than those in other psychiatric settings ( $P<.05$ ).
- VII. Social workers endorsed Adaptive Symptomatology significantly

Table 2  
Mean Factor Scores and Analysis of Variance by Professional Discipline,  
and Place of Employment as Compared to Scores Obtained by Fitzgibbons and Shearn Study<sup>1</sup>  
Factor

GROUP	N	I	II	III	IV	V	VI	VII	VIII
<i>Discipline</i>									
Psychology	26 (74)	49.38 (34.78)	42.38 (30.00)	28.76 (32.99)	5.46 (8.74)	11.93 (15.01)	7.76 (5.18)	11.23 (11.44)	5.84 (9.27)
Social Work	40 (42)	59.35 (38.26)	52.30 (28.38)	28.65 (33.33)	5.70 (8.29)	13.25 (15.51)	8.65 (5.74)	19.90 (10.36)	4.45 (9.53)
Psychiatry	38 (67)	49.90 (49.11)	50.89 (26.68)	36.31 (22.79)	5.47 (9.10)	11.89 (14.06)	8.47 (5.87)	15.89 (11.43)	7.21 (8.56)
F		3.10 °	16.53 °°	3.02 °	1.46	.91	.43	29.56 °°	4.13 °
		(19.17)	(2.32)	(41.46)	(1.26)	(1.21)	(.93)	(1.28)	(1.70)
<i>Place of Employment</i>									
Mental H. Center	52 (33)	62.00 (44.46)	49.04 (31.49)	28.20 (30.09)	6.26 (8.42)	13.65 (15.52)	8.53 (6.94)	17.57 (12.51)	5.69 (9.61)
State Hospital	18 (22)	48.88 (39.81)	48.44 (27.66)	28.00 (30.20)	5.44 (8.31)	10.40 (13.70)	10.33 (5.40)	16.44 (11.18)	6.50 (8.13)
Private Hospital	12 (78)	54.16 (36.16)	50.00 (24.60)	28.00 (29.75)	5.16 9.24	11.66 (15.11)	7.83 (4.22)	19.00 (9.94)	5.50 (9.10)
Miscell.	22 (50)	39.18 (42.44)	48.54 (29.68)	38.54 (28.75)	5.72 (8.90)	14.09 (15.11)	7.36 (5.82)	15.00 (10.67)	6.09 (9.65)
F		8.89	.05	6.11	.38	2.84	2.61	2.03	.18
Total Sample	104 (183)		°P<.05 °°P<.01						



## CONCEPTS OF SCHIZOPHRENIA

more ( $P < .01$ ) than other professional groups with psychologists supporting it least.

- VIII. Psychiatrists believe in the Irreversibility of Schizophrenia more than other groups ( $P < .05$ ) and social workers believe in it least.

### DISCUSSION

There is some logical basis for the differences found among the various disciplines. The nature of one's training and professional identification surely influence his ideas about the etiology of schizophrenia, and such orientations probably hinder instead of facilitate the advancement of knowledge about schizophrenia. Each of the professions appears to lock itself into a system of beliefs and, perhaps unfortunately, are generally closed to new information. It is thus plausible that the theoretical orientation of each profession becomes a set of blinders which permits the professional to see only a restricted segment of information about schizophrenia.

Differences found in work settings may be due either to the idea that certain professionals with like orientation tend to flock to a certain type of treatment or research center, or that there may be wide differences in the clusters of patients treated in different settings. In support of the latter, it is conceivable that schizophrenics treated in a private hospital set-

ting differ in characteristics from those treated in the state hospital or community health center. Thus, the professional who has had his primary experience in only one setting likely developed limited and perhaps biased ideas on schizophrenia.

The primary purpose of this research, however, is not to call attention to the already painfully apparent ignorance about schizophrenia which is the present state of the behavioral sciences, but the further validation of the Fitzgibbons and Shearn (1972) study. On the other hand, the results underscore that the marked disagreement which exists in the conceptualization of schizophrenia is traceable to non-patient variables; i.e., to the training, orientation, and work setting of the "expert" who is called upon to decide which persons out of the general population are schizophrenic and which are not. The findings here incline one to wonder whether the term "schizophrenia" has any remaining usefulness in terms of advancing knowledge.

Finally the results raise serious doubts as to the validity of previous studies which have depended upon a classification of individuals into schizophrenic and non-schizophrenic categories. Genetic and biochemical investigations (the real hope in the views of the authors) will remain severely handicapped and confounded until specific, objective, behavioral terminology (with high reliability) is forthcoming.

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# President's Pages



I have written a "Page" previously for the August Edition of *The Journal*, but as I sit down tonight, July 20th, I realize there are so many things going on in your Association that I would like to tell you in a "Fireside" way about some of them.

At the June Meeting of Council committees were appointed. I have been working on Committees since early Spring and have received wonderful support from Doctors all over the state in trying to strengthen the work of Committees. They should be given more authority. This has paid off in the last two days.

I am sure all of you are aware of the recent passage of the Reorganization of the State Board of Health. This leaves us completely on the outside except for one Doctor on the Commission. I consulted the Chairman of the Legislative Committee and asked for a recommendation from his Committee as to how we should proceed at this point. His Committee had conferences, including members of Legislature friendly to Physicians, and came up with a plan that the Executive Committee of Council feels is the best approach.

During the past several days we have been confronted with the "Aiken Situation." I assure you the "quotes" of Doctors in the newspapers are not entirely accurate. One spokesman has been set up for the S.C.M.A. and I will confer with our Public Relations Consultant, Jack Meadors, Chairman of Council, etc. before policy statements are made. When faced with this difficult situation, we called in the Chairman of our Maternal Welfare Committee and he has promised a policy statement after his Committee of 18 meets next week. We have been bombarded by the News Media, and I hope the Medical Association can come through unscathed.

There are also some problems concerning the Permanent Home with some opposition being expressed by a small group. They should and will be heard and, when it is finally decided, I hope we will be more united than ever and will concentrate on a common goal.

Our Public Relations Committee had a recent meeting with our Public Relations Consultant, Mr. Harrelson. I wish I could tell you of the great plans they have outlined to improve the image of the S.C.M.A. and each Doctor in this state. These plans will be presented more completely at a future date.

A date has been chosen for the Winter Business Meeting of S.C.M.A. It has been tentatively set for December 8th and 9th in Columbia. This will be a Meeting of Council, the Major Committees, and the House of Delegates. You will be hearing more about this often.

The Foundation is pushing forward, as it must, to prepare us for P.S.R.O.



Finally, I am happy to tell you that I have succeeded in getting Dr. Walter Judd to come as our Banquet Speaker next May. I am sure all of South Carolina will be proud to welcome this distinguished Physician and American to our Association's Annual Meeting.

Harold P. Hope, M.D., President  
S. C. Medical Association

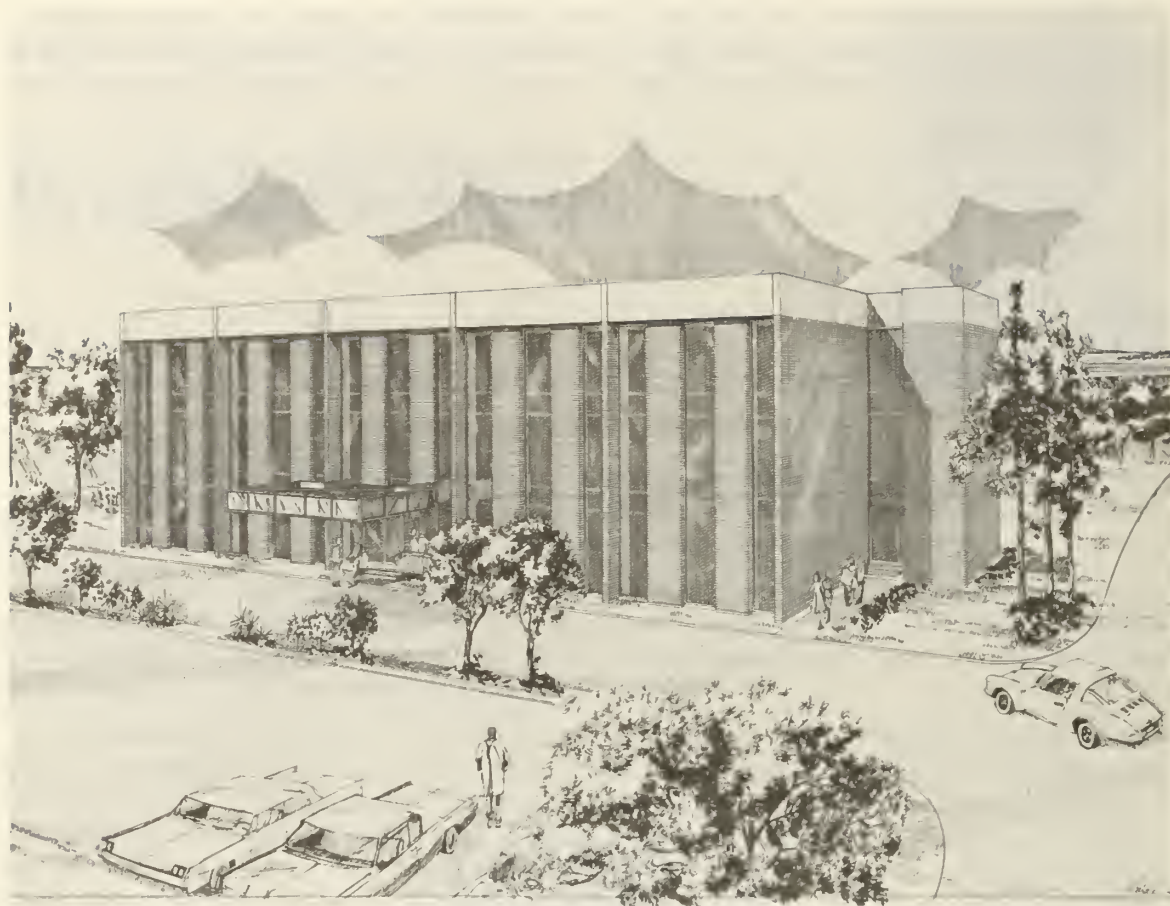
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## 50 YEARS AGO

August, 1923

The Greenville County Society had 57 members. Anderson had 41. The annual Marlboro meeting was mentioned as a great success.



### HEADQUARTERS, SOUTH CAROLINA MEDICAL ASSOCIATION

Plans are proceeding for the new S. C. Medical Association state headquarters building in Columbia (architect's rendering pictured above), approved by the House of Delegates at the meeting in Myrtle Beach in May.

The three-story brick and glass structure, to be located on two acres of land adjacent to the Richland Memorial Hospital, will provide 24,900 sq. ft. of space. Construction cost, as estimated by the architects, is expected to be \$697,000.

In addition to the state association, expected to occupy 2,896 sq. ft. on the first floor, the Columbia Medical Society will lease space in the building, and remaining space will be leased to other tenants, it was pointed out by Dr. C. Tucker Weston, chairman of the building committee.

With full rental, the association will, in effect, be provided with rent-free space. Dr. Weston reported.

It is planned that bids will be invited in late summer, he also pointed out.

Total rentable space will be 15,532 sq. ft.

Construction will include steel frame, with brick and glass exterior.

Architects for the project are LBC&W, Comprehensive Services, Inc., Columbia.

Leasing of space will be handled by the Keenan Company/Realtors, Columbia.

The Columbia Medical Society plans to occupy 724 sq. ft. on the first floor.

The site is bordered on the west by I-77 (Bull Street Extension), with the Richland Memorial Hospital bordering the site on the east.

The area will include 83 parking spaces.

# Editorials

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## Headquarters Building Symbol of a New Era

This issue of *The Journal* is dedicated to the Headquarters Building of the South Carolina Medical Association, soon to be under construction in Columbia. We hope this beautiful new building, shown on the opposite page, will symbolize the beginning of a new era in the life of the South Carolina Medical Association.

"Synergia" is a Greek word indicating the whole is greater than the sum of its parts. In the past, the South Carolina Medical Association has been just the opposite. Though populated by people—professional and administrative—of first rate quality, the Association has been just what we wanted—a third-rate, inactive, ineffective bystander. Times have changed and so have the needs of our profession. My frank opinion is that the South Carolina Medical Association is on the threshold of a new existence. There are many hopeful indications that the Association is becoming a strong, vital rallying force for the interests of the medical profession, a force that we surely need in these days of complexity and change.

One of the strongest and most hopeful indications of this forward thrust was the somewhat controversial passage by the House of Delegates of the Council's recommendation that the South Carolina Medical Association construct a three-story Headquarters Building in Columbia. If this venture works out as anticipated, it will give our Association an attractive, centrally located "Command Post," and the eventual financial results will be extremely favorable for the Association. However, as with every venture, the start-up costs are considerable, requiring a temporary dues increase of \$5 a month for

three years, or a total of \$180 cost for each member of the South Carolina Medical Association. This should be amply repaid in the years to come with great financial relief for the Association, and therefore, for all its members, but the first few years will be difficult.

To demonstrate faith in your Association and to demonstrate faith in the future, I suggest that every member seriously consider prepaying the \$180 temporary dues increase in one lump sum at this time. This would give the Association a better basis for mortgage negotiations.

Also recommended for your consideration is the availability of memorials at a cost of \$1,000. These \$1,000 gifts would entitle the donor to designate a memorial plaque to be placed in the building and would be very helpful to the South Carolina Medical Association.

Consider both these possibilities.

E.E.K.

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## What Is Schizophrenia?

What is schizophrenia? Does anyone know? Can it be reliably diagnosed? Do we understand insanity? Do sanity and insanity exist?

Rosenhan,<sup>1</sup> using a rather spectacular technique, cast doubt on medicine's ability to answer any of these questions. He selected eight individuals whose sanity or mental stability had never been in doubt. After choosing twelve mental institutions on the East and West coasts of various types, state and private, woefully understaffed to optimally staffed, he had his experimental individuals seek admission to these hospitals as "pseudo-patients," completely without warning to any of the staff of the hospitals. The pseudo-patients



told the admissions officer of hearing voices. Otherwise, the pseudo-patients acted completely normally, answered every question truthfully, related their histories exactly as they occurred, never deviating from actual facts of a normal life. Without exception, pseudo-patients were admitted promptly to each institution with a diagnosis of "schizophrenia." At no time, though each pseudo-patient conducted himself entirely normally on the ward, did any of the hospital personnel—psychiatrists, psychologists, nurses, or attendants—ever question the validity of the admitting diagnosis, though an occasional patient did detect the normality of the pseudo-patient. By the time of discharge, the hospital staff still failed to recognize the patient as being normal, the pseudo-patients invariably were discharged with the label "schizophrenia—in remission."

Seegars and Miller have found great disagreement among the mental health professionals in South Carolina over the identification of schizophrenia, as reported in this issue of *The Journal*.

Imprecision in the concept of schizophrenia has naturally limited clinical investigation and impeded research. Recognizing this roadblock, the World Health Organization<sup>2</sup> stimulated the National Institute of Mental Health to propound a twelve point system for the differential diagnosis of this condition. Even this system is far from perfect as only 80 percent of diagnosed schizophrenics demonstrated five of the criteria, while 13 percent of normals showed as many as five aspects. With a six point matchup, the true-positive score dropped to 66 percent, and the false positive to only four percent.

Clearly, the nature and diagnosis of schizophrenia remains unclear.

It boggles the mind to think of PSRO's or Utilization Review Committees meeting

head on the problem of schizophrenia. How will they handle it?

E.E.K.

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2. Toward defining schizophrenia, *Medical World News* 14:39, June 1, 1973.

#### On Tests For Competence

Thoughtful ones will agree with the stand of the American Society of Internal Medicine as told the AMA Board of Trustees on April 21. In essence the ASIM believes that a physician's competence can best be determined by assessing his performance rather than by assuming competence to be commensurate with his attendance at medical meetings and continuing education courses. On the other hand, it appears that in a, no doubt, sincere but misguided effort to ensure quality of performance the powers that be have leaned over backwards in trying to be certain that physicians in general are not "getting away with something."

All these "tests" are not much more than a smoke screen. What really assures competence, and assures it quite generally, is the fear on the part of the physician that he will make some mistake which will bring him into court. He must and does keep up reasonably well since he is treating a very well informed, though not always a rightly informed, public. He has to know the answers to all legitimate and practical questions in his sphere of action. If he does not, he will soon be found out to his own cost.

So let's stop all this selfrighteous concern over the abilities of our colleagues and the imagined danger they are to the public welfare, and get on with the business and the burden and the joy of giving the best that is in us to all who seek our service, remembering that the WORD may be silence.

J. W. Jervey, M.D.

## LETTER TO THE EDITOR

The following letter from Harry Metropol, chairman of our Insurance Committee was sent by me to the President of Blue Cross-Blue Shield on June 15, 1973, for any possible comments the company might like to publish with it. As of July 9, 1973, no response, no thanks, no acknowledgement has been received.

E.E.K.

"Dear Ed.

"As chairman of the insurance committees of the S. C. Medical Association and of the Columbia Medical Society, I have been asked often for a discussion on why we should not participate in Blue Shield. I think it would be appropriate to develop numerically the reasons.

- "(1) Blue Shield of South Carolina was first established by the South Carolina Medical Association to make it possible for persons of low and modest incomes to pay their doctor bills with dignity. This was a natural extension of the time-honored principle that physicians gladly accept compensation according to an individual's ability to pay. Physicians could morally participate in the Blue Shield Plan which was offering a service not available from the other insurance companies. In addition, he had the satisfaction of knowing that the House of Delegates, sitting as the corporation of Blue Shield, had the capability (even though not always exercised) of making sure the Plan operated to the best interest of the subscribers and, therefore ultimately to the best interest of the physicians too. What has happened is history. The South Carolina Medical Association is completely disassociated from Blue Shield by its own action and by state legislative action. In fact, Blue Cross and Blue Shield have been united as a single company. The physician

representation is at a minimum on the Board of Directors. Why then should a physician sign a contract of participation with one company and not be willing to do the same with all ethical insurance companies? I think it is morally wrong to discriminate at the present time.

- "(2) With government financed programs such as Medicare and Medicaid, the former arrangements for service benefits that Blue Shield provided are no longer needed.
- "(3) The participating physician discriminates against his own patient. How can he morally justify collecting a higher fee from his patient with some other insurance or from a patient who pays cash, for example, while at the same time accept a lower fee as payment in full under the usual and customary schedule as a participating physician? In other words, when Blue Shield does not allow his usual and customary fee even though he thinks it is reasonable, he accepts that amount as payment in full; but for the other patients without the Blue Shield coverage he collects his usual fee.
- "(4) Practically all the insurance companies honor assignment of benefits by the patient. Blue Cross-Blue Shield is the only company to my knowledge which does not honor an assignment. This has been stated as using a "club" over the head of the physician. I think this type of a relationship is not justified in our present society. In fact, why should a non-participating physician cooperate at all with an insurance company which refuses assignments and even asks him to

code as well. I think a statement to the patient with the diagnosis and the procedure performed should suffice.

- “(5) With some exceptions, physicians who worry about compensation and do not trust their patients are the physicians who are most likely to continue to participate. Physicians who no longer participate are

the happiest physicians for more than one reason. He is not morally discriminating against other insurance companies nor his patients and he is back to the time honored doctor-patient relationship to name just a few reasons.

Harry J. Metropol, M.D.

Chairman, Insurance Committee  
South Carolina Medical Association”



**Dr. Laurence Frederick** of Rock Hill has been elected president of the South Carolina Surgical Society, which held its annual meeting recently at Sea Island, Georgia. He was also recently selected as the regent to the International College of Surgeons from South Carolina. **Dr. Marvin John Short** has been appointed medical director of the Marshall I. Pickens Hospital, the psychiatric facility of the Greenville Hospital System. Dr. Short is a graduate of Duke University Medical School.

**Dr. Walter M. Bonner, Jr.**, a specialist in diseases of the joints, has been promoted to Professor of Medicine at the Medical University of South Carolina. **Dr. Roy E. Nickles** has been promoted to Assistant Clinical Professor (Dermatology) and **Dr. Larry D. Rabon** has been named a Teaching Fellow and Chief of Urology at the Medical University.

**Dr. James Lee Hahn**, associate director of Obstetrics and Gynecology at the Richland Memorial Hospital for the past year, will open a private office on Bush River Road in Columbia. **Drs. John J. Bioletti** of Astoria, New York, **John O. Donato** of New York City, and **John L. Ward, Jr.** of Columbia have joined the staff at Elliott White Springs Memorial Hospital in Lancaster. Dr. Bioletti has opened an obstetrics and gynecology practice, Dr. Donato will prac-

tice general surgery and Dr. Ward will serve as chief of pathology. **Dr. Bernard L. Langston, III** has announced the opening of his office for the practice of general medicine in Cayce. **Dr. James W. Hammond, Jr.** has joined **Drs. Henry W. Moore** and **C. Guy Castles, Jr.** as Pediatric Associates at 1417 Gregg Street in Columbia. He is a graduate of the University of Texas Southwestern Medical School in Dallas.

**Dr. Juan A. Cornejo**, a native of Argentina, will set up a private practice specializing in obstetrics and gynecology in Dillon. Dr. Cornejo has recently completed a three-year residency at the University of Florida Medical School Hospital in Jacksonville. **Dr. I. F. Wood, Jr.** has announced the opening of his office for practice of general medicine in Georgetown. Dr. Wood graduated from the Medical University of South Carolina and served his internship at Memorial Medical Center at Savannah. **Lawrence F. McManus, M. D.**, until recently Assistant Chief of Orthopedic Service, Moncrief Army Hospital, Fort Jackson, has joined the professional staff of The Moore Clinic (**Drs. Edward Kimbrough, Emmett Lunceford, Walter Kochanski, and Herbert Niestat**) in the practice of orthopedic surgery in the Columbia area. Dr. McManus was graduated from New York Medical College in 1966.



## THE AMA ANNUAL CONVENTION, NEW YORK CITY

JUNE, 1973

When the delegates arrived at the Americana, they were confronted by three picket lines. The Abortionists were in one, the Right-To-Life people in the second, and the Gay Libbers in between. Inside, the delegates found some 170 resolutions, 50 reports from the Trustees and various councils, and the election of officers waiting for their attention.

The items on the agenda are received by the House on Sunday afternoon, referred to nine committees that meet simultaneously on Monday, and then taken back to the House for action on Tuesday, Wednesday and Thursday. The House finally adjourned at one P.M. on Thursday. The South Carolina Medical Association has, to handle this assignment, its two delegates, two alternate delegates, president, and executive secretary. This time we were also helped by Dr. Frank Weir, President of the Spartanburg County Medical Society, and also Dr. Michael Holmes, both of whom joined right in. Your delegation wishes to suggest officially that the larger county societies consider sending one of their officers to each AMA meeting to help your delegates do a better job, and to learn what goes on in the AMA. Volunteers will be most welcome at our organizing morning breakfasts at seven A.M. daily in the South Carolina Medical Association work room. The SCMA provides the room and the breakfast.

The remarks of the President, Dr. Carl Hoffman of West Virginia were philosophical. In part, he stated that the prime essential of good medical care is a good doctor — patient relationship. He explained that medical care can be no better than the education upon which it is founded; and that therefore, with the tremendous increase of medical knowledge,

we should have a lengthened, not a shortened, curriculum. He urged a return to the rotating internship in community hospitals with specialty training in the teaching centers. He stressed the necessity for studies in the humanities, for the purpose of producing wise counselors. He considered it fundamental that physicians' assistants of various sorts should indeed assist physicians, not replace them. And he reassured us that we can meet the medical needs of the American people now, but admitted that we can never meet their demands ever. As for our goal, it should be what it has always been, "to improve the quality of medical care".

By contrast, the remarks of the incoming President, Dr. Russell Roth of Pennsylvania, were specific rather than philosophical. His thesis was, "that the individual physician can do little about" the obligations and responsibilities of medicine "on his own, and that only through the collective actions of organized physicians can these jobs be done". Naturally he advanced the AMA as the umbrella organization that should serve us on social, political and economic issues, as well as on scientific matters. Of course he recognized the necessity for other medical organizations whose interests would be more restricted in their scope. He illustrated the services and duties of the AMA to the profession and to the public, and emphasized the complications of intergroup relationships in our complex society. He closed by saying that a "profession populated by men and women of competence, integrity, and a will to do their best for their people" would provide "care for the health of our nation without the need for restrictive systems, intricate controls, or massive governmental interventions. That is what the AMA is all about."

We also heard from Charles C. Edwards, M. D., Assistant Secretary for Health, U.S. Department of H.E.W. His talk was "brief and candid." He mentioned the turmoil involved in transforming "a cottage industry into a vast public-private endeavor to meet the health needs of the American people." He stated that Medicare and Medicaid had "opened up access to health care to tens of millions of persons "without diminishing the freedom of physicians and other health professionals to exercise their own best judgment in all aspects of patient care." He alleged that "the present administration (had) a genuine willingness to listen to every responsible element of the health community," and urged us to be part of the solution to the problem, rather than part of the problem, because if we persisted in being part of the problem, we would be solved.

The various items that required four full days of hard work for their consideration can only be skimmed.

There was considerable discussion about "the right to die with dignity," which seems to be much more complicated than you might think, with legal as well as philosophical ramifications. The subject was finally referred to the judicial council for further study.

The matter of abortion was the subject of numerous resolutions and was considered before two committees. In very brief, the AMA took the position that the decision to terminate pregnancy should be based upon sound medical reasons, and that the mere desire of a woman not to have a baby did not constitute such a reason. Testimony revealed that abortion a la New York is by no means an innocuous procedure, and that there have been many serious maternal complications including many maternal deaths. In the daily New York papers, classified ads offering help in obtaining abortions parallel ads offering help to expectant mothers who decide to continue with their pregnancies.

There was much discussion about the use of methadone in drug abuse. It was

brought out that methadone is a very effective drug in ordinary medical practice. It was also revealed that in England, where for years heroin was available on prescription like other prescription drugs, heroin addiction has become so great that prescription is now limited to some 100-150 specially trained physicians.

The AMA refused to endorse E.R.A. The E.R.A. proposal was one of nearly twenty submitted by the SAMA and Intern and Residents delegates. The AMA is seeking rapport with our young Aesculapians, and their proposals were by no means unwelcome or without merit, though most of them were referred here and there for further consideration.

There was much discussion of PSRO's. By and large, the AMA position is that, although PSRO may have to be repealed ultimately to preserve the highest standards of medical care, for the present individual and organized physicians should endeavor to guide the bureaucrats in the formulation of the regulations, and try to live with the requirements as best they can. "Cooperation without surrender" is the concept. In this connection, the House commended the Board of Trustees for having taken prompt action to prevent the circulation by HEW of Intermediary Letters A 73-12 and B 73-10; which would have required "that the Utilization Review Committees of Hospitals and Skilled Nursing Homes establish and use a preadmission certification program." The letters were withdrawn, but we were told that instead their principal provisions "will be published in the Federal Register as proposed regulations on or before July 1, 1973." Maybe the Federal Bureaucracy has an internal communication problem, or maybe it just speaks with a forked tongue. It is a good thing hope springs eternal in our leaders, I guess. In this connection there was a resolution from Texas requesting the AMA to seek repeal of PSRO legislation, which got about as short shrift as the SCMA resolution for the AMA to cease admitting osteopaths to full membership. We did learn though that on



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# He has Trichomonas vaginalis?

It's his infection but her problem...

Men with trichomonal infection are virtually always asymptomatic, which is why they seldom know they have the disease. But many do have it, nevertheless.

Trichomonal infection is so common that estimates<sup>1</sup> indicate one out of every four women of reproductive age has the disease. *Almost half of the husbands of women infected with Trichomonas vaginalis have it, too.*<sup>2-9</sup>

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- It is the most effective drug available for the treatment of trichomoniasis in both men and women.
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- Consistent cure rates above 90 percent are to be expected. The rate often approaches 100 percent.
- Simple, sure treatment for women: One 250-mg. tablet three times daily for ten days.
- Simple, sure treatment for men: One 250-mg. tablet twice daily for ten days concurrent with treatment of the female partner.
- Side effects are generally mild and infrequent.
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**Indications:** For the treatment of trichomoniasis in both male and female patients and in the sexual partners of patients with a recurrence of the infection provided trichomonads have been demonstrated by wet smear or culture. The oral tablets are indicated also for acute intestinal amebiasis (amebic dysentery) and amebic liver abscess.

**Contraindications:** Evidence or history of blood dyscrasia, active organic disease of the CNS, the first trimester of pregnancy and a history of hypersensitivity to metronidazole.

**Warnings:** Use with discretion during the second and third trimesters of pregnancy and restrict to those pregnant patients not cured by topical measures. Flagyl (metronidazole) is secreted in the breast milk of nursing mothers. It is not known whether this can be injurious to the newborn.

**Precautions:** Mild leukopenia has been reported during Flagyl use; total and differen-

tial leukocyte counts are recommended before and after treatment with the drug, especially if a second course is necessary. Avoid alcoholic beverages during Flagyl therapy because abdominal cramps, vomiting and flushing may occur. Discontinue Flagyl promptly if abnormal neurologic signs occur. Exacerbation of moniliasis may occur. In amebic liver abscess, aspirate pus during metronidazole therapy.

**Adverse Reactions:** Nausea, headache, anorexia, vomiting, diarrhea, epigastric distress, abdominal cramping, constipation, a metallic, sharp and unpleasant taste, furry or sore tongue, glossitis and stomatitis possibly associated with a sudden overgrowth of *Monilia*, exacerbation of vaginal moniliasis, an occasional reversible moderate leukopenia, dizziness, vertigo, incoordination and ataxia, numbness or paresthesia of an extremity, fleeting joint pains, confusion, irritability, depression, insomnia, mild erythematous eruptions, "weakness," urticaria, flushing, dryness of the

mouth, vagina or vulva, pruritus, dysuria, cystitis, a sense of pelvic pressure, dyspareunia, fever, polyuria, incontinence, decrease of libido, nasal congestion, proctitis, pyuria and darkened urine have occurred in patients receiving the drug. Patients receiving Flagyl may experience abdominal distress, nausea, vomiting or headache if alcoholic beverages are consumed. The taste of alcoholic beverages may also be modified. Flattening of the T wave may be seen in ECG tracings.

**Dosage and Administration: For Trichomoniasis.** *In the female:* One 250-mg. tablet orally three times daily for ten days. Courses may be repeated if required in especially stubborn cases; in such patients an interval of four to six weeks between courses and total and differential leukocyte counts before, during, and after treatment are recommended. Vaginal inserts of 500 mg. are available for use, particularly in stubborn cases. *When the vaginal inserts are used,* one 500-mg. insert is placed high



in the vaginal vault each day for ten days and the oral dosage is reduced to two 250-mg. tablets daily during the ten-day course of treatment. Do not use the vaginal inserts as the sole form of therapy. *In the male:* Prescribe Flagyl only when trichomonads are demonstrated in the urogenital tract, one 250-mg. tablet two times daily for ten days. Flagyl should be taken by both partners over the same ten-day period when it is prescribed for the male in conjunction with the treatment of his female partner.

**For Amebiasis.** *Adults:* For acute intestinal amebiasis, 750 mg. orally three times daily for 5 to 10 days. For amebic liver abscess, 500 to 750 mg. orally three times daily for 5 to 10 days. *Children:* 35 to 50 mg./kg. of body weight/24 hours, divided into three doses, orally for ten days.

**Dosage forms:** Oral tablets 250 mg.  
Vaginal inserts 500 mg.

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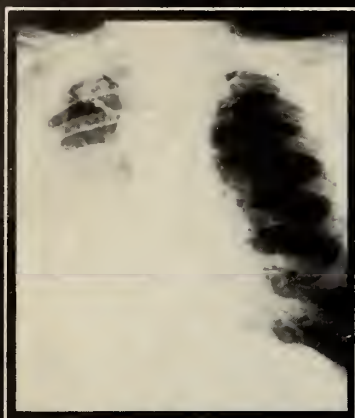
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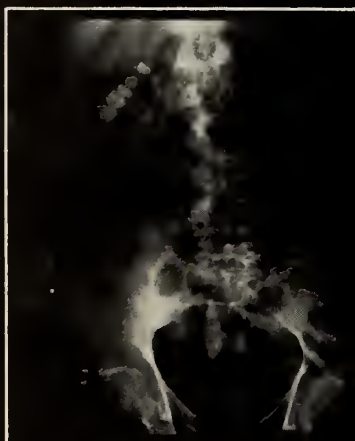


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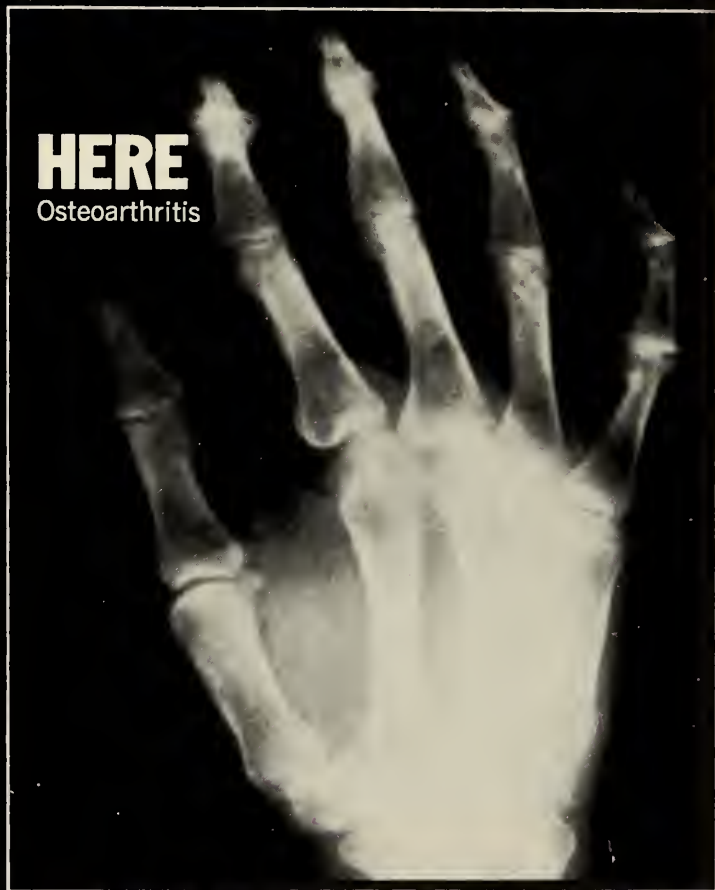


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June 26th the AAPS had entered suit in a federal court in Illinois to prevent HEW from implementing PSRO on the grounds that PSRO is unconstitutional.

The AMA came out strongly against unions for two reasons. It said that there was nothing a union could do that the AMA couldn't do; that power does not reside in name but in performance. Then it said that the ultimate weapon of the union is the power to strike and to withhold medical services, whereas the goal of the medical profession is to serve the public.

The AMA confirmed the action of the Board of Trustees in resigning from the World Medical Association, the dues being high and the benefits debatable.

The AMA opposed licensing of doctors and nurses through their hospitals, insisting upon individual licensure and urging professional requirement of continued education rather than relicensing examinations.

Action was taken to put an Intern and Resident representative as such upon the Council on Medical Service and the Council on Medical Education. Opposition was bitter on the grounds that no other such specialty group received representation on councils in this way. The majority held, however, that the AMA wanted the opinions of the young, and that the influence of 1 vote out of 10 or 11 would not be overwhelming. The opinion was firm, however, that interns and residents should join their county and state societies, with reduced dues, and obtain their representation in the House of Delegates the same as the rest of us, with no requirement for intern and resident delegates as such.

The JCAH was urged to require physicians in more than token numbers on hospital boards, as one of the criteria to be considered in JCAH accreditations.

We were also told that hospital boards should not be allowed to impose staff constitutions and bylaws upon their staffs by unilateral action, but that the staff should prepare these documents for approval by the board.

The American Hospital Association Quality Assurance Program was discussed at length. It was considered to retain the faults inherent in the AHA Ameriplan, to wit, the potential for lay control of medical practice. Specifically, the AMA did not endorse QAP, but expressed strong reservations, and suggested that it be tried and proven in a few hospitals only before being implemented on a large scale.

Resolution 124 took note of "a growing tendency for hospital administrators to be appointed and called president of hospital boards of trustees" and instructed the JCAH and the Board of Trustees to investigate what is cooking.

The AMA is trying to obtain a standard emergency telephone number for national use. The AMA refused to endorse a gun control law, but instead urged prompt enforcement of strict punishment for violent crimes. The AMA is trying to develop a uniform benefit claim form that will supply all the necessary information that we now furnish on various third party forms.

The necessary formalities to establish a Section on Emergency Medicine were initiated.

The term of office of trustees was reduced to two terms of three years each.

The following officers were elected and/or installed:

President—Russell Roth of Pennsylvania  
President Elect—Malcolm Todd of California  
(not a trustee)  
Vice President—Bryce Robinson of Alabama  
Speaker—Tom Nesbitt of Tennessee, who succeeded Frank Walker of Georgia who declined renomination because of his health.  
Vice Speaker—William S. Rial of Pennsylvania  
Trustees—  
John Budd of Ohio  
Richard Palmer of Virginia  
James Sammons of Texas  
Ken Sawyer of Colorado  
All re-elected without opposition.  
Council on Constitution & By Laws—  
John Burkhart of Tennessee was re-elected over John Hawk, of South Carolina, both being nominated by the Board of Trustees. John Hawk may be renominated for another vacancy on this Council next year.  
Council on Medical Service—  
Hector Benoit of Missouri—Re-elected  
Drew Peterson of Utah  
Daniel Ostergard from the Section of Interns & Residents

Council on Medical Education—

J. J. Wildgen of Colorado

Russell Fisher of Maryland

Louis Burgher—From the Section of Interns & Residents

Judicial Council—George H. Mills—Hawaii.

Incidentally, the House decided that Trustees should continue to run by slots, i.e., against a specific opponent, rather than at large against the field.

You should know that the AMA now has more than 1000 employees again. We hope that the management study currently being undertaken will not only streamline our organization and make it more efficient, but possibly effect financial savings and permit reduction of personnel.

The food in New York remains good, but the theater, morally speaking becomes worse and worse. I've seen performances with less clothing, but the plays are no longer suggestive, they are explicit.

It is a pleasure to work with a group as harmonious as our South Carolina delegation, and I believe our group is becoming better known and more effective.

Thomas Parker, M. D.

### Course in Postgraduate Gastroenterology

The American College of Gastroenterology announces that its Annual Course in Postgraduate Gastroenterology will be given at The Biltmore Hotel in Los Angeles, Calif., on Thursday, Friday and Saturday, 25, 26, 27 October 1973, immediately following the 38th Annual Convention of the College which will also be held there on 22, 23, 24 October.

The Course will be devoted primarily to review and assessment of newer development in the diagnosis and management of gastrointestinal diseases.

A distinguished faculty, with knowledge and experience in the various disorders to be considered, will present the important advances that have special pertinence to clinical practice.

Close association between those enrolled in the Course and the faculty will be encouraged by direct questioning after each discussion, as well as by a series of Special Round Table Discussions. The latter will consist of intimate, informal discussions

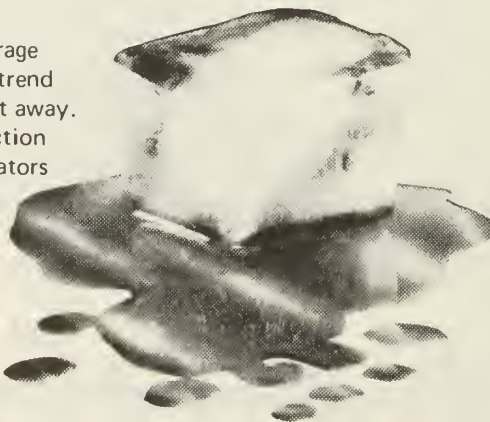
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between small groups of those taking the Course and a member of the faculty with the former given the opportunity of selecting the topic of discussion each individual prefers. There will also be special reviews of the Self-assessment Program in Gastroenterology (American College of Physicians). These will consist of informal analysis and discussion, by the faculty reviewers and those enrolled, of the ques-

tions posed and the appropriate answers to each.

A special lecture, summarizing the applied physiology of the gastrointestinal hormones that have come into prominence, is another feature of the Course.

Further information and enrollment may be obtained from:

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### STP PROGRAM

The STP program to meet physicians needs of South Carolina communities is gaining wide acceptance.

Nine communities are now financially backing medical students who have agreed to practice in the locales.

STP, an acronym for Students to the People, is based in the Department of Family Practice at the Medical University of South Carolina. Its dual purpose is to alert medical students to opportunities for productive practice in wholesome South Carolina settings, and to alert communities to the need to plan in advance to attract future physicians.

The catalyst for the program is Dr. B. Lewis Barnett, associate professor of Family Practice, who formerly practiced 20 years at Woodruff.

The first communities to enter the program a little over two years ago were Enoree and Laurens. Since then students have entered into agreements with Branchville, Varnville, Holly Hill, Kingstree, Moncks Corner, Lake View, and Chesterfield.

Holly Hill, supporting one student, is seeking to interest a second and Kingstree is partially supporting a second student. Moncks Corner, meanwhile, is in the fortunate position of having a second student indicate he will go there as a partner without any community aid.

STP is a personal program. The student chooses to adopt the community and the community to adopt the student. A genuine friendliness and interest is expressed by the community throughout the student's medical schooling. The student's financial backing is usually achieved through a non-profit foundation created by the community.

The student, on the other hand, fully expects to repay the foundation loan, thus preserving a full sense of dignity. The loan enables the married student to maintain integrity as head of his household and his wife is not caught up in the pressures of

trying to help support her husband through school. Further, the decision to settle in the community must be made with full approbation of the wife.

A key to the program is the community's awareness that it must interest a student at an early level of his training, that it must exercise forethought in planning medical care for its people. If it waits until a student is about to graduate or has graduated, it's usually too late. The community does not expect to be repaid until the student is in productive practice.

Dr. Barnett, as catalyst, brings both parties together. But he has nothing to do with the contractual arrangements. The personal nature of the program is the reason for its success, he points out.

---

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should be administered with caution to patients with cardiovascular disease; development of chest pains or other aggravations of cardiovascular disease requires a reduction in dosage.

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dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

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# CANCER TOPICS



PAUL H. O'BRIEN, M.D., F.A.C.S.\*

## Laparotomy and Splenectomy As a Routine Staging Procedure in Hodgkin's Disease

One of the most significant events in cancer therapy during the past ten years has been the change in prognosis in Hodgkin's disease from a uniformly fatal affliction to a cure in a great percentage of cases. While the etiology of the disease remains vague, the pathogenesis and mode of spread of Hodgkin's disease are now better understood. Kaplan, analyzing 340 consecutively entered cases of Hodgkin's disease, found that over 90% of the cases with more than one lymph node bearing area involved showed involvement of lymph node chains that were contiguous.<sup>1</sup> This indicated in the great majority of cases that the disease is unifocal and spreads via direct lymphatic extension to adjacent lymph node areas. This observation made the irradiation of lymph node bearing areas contiguous with and beyond the known involved areas a very rational therapeutic procedure.

The developments of radiation therapy, specifically with supervoltage therapy, during the past thirty years were outlined in this column one year ago by Dr. Keene M. Wallace. The problem of determining how much radiation therapy should be given has been alleviated by newer concepts in the staging of Hodgkin's disease.

The importance of staging in Hodgkin's disease is because:

- (1) It forms a specific nosology for types of patients seen and situations treated so that investigators and

institutions may compare and contrast methods of treatment.

- (2) It helps to define a prognosis in specific groups.
- (3) It provides information as to the best therapeutic approach for a patient in a given category.

Clinical staging is accomplished by first, of course, a detailed history and complete physical examination: CBC, platelet count, erythrocyte sedimentation rate, alkaline phosphatase, and evaluation of renal and liver function. X-ray studies include PA and lateral chest, intravenous pyelogram, and views of the skeletal system including areas of bone pain or tenderness. If an abnormality in the chest film should be isolated, tomography of that area is indicated. Bone marrow biopsy is no longer recommended for patients early in Hodgkin's disease in that the yield is so small. This particular essayist espouses celiotomy and splenectomy and, therefore, feels lymphangiography and inferior vena-cavography have no role.

Lymphangiography can give some indication of rather gross involvement of iliac and para-aortic nodes, but it does not opacify mesenteric, celiac, puortal and/or splenic nodes. In Rosenberg's series of one hundred consecutive untreated cases, the lymphangiogram was read as equivocal in 20% and was correlated with laparotomy findings in only sixty-four of the other eighty cases.<sup>2</sup> Lymphograms cause a marked inflammatory reaction in lymph nodes by the ethiodized oils which can

\*Director, Cancer Clinic; Professor in Surgery, Department of Surgery, Medical University of South Carolina, Charleston, South Carolina



mislead a surgeon during gross examination.<sup>3</sup>

The determination of liver involvement or other extranodal involvement, which result in a patient being classified as Stage IV is very significant because these patients should be treated with combination chemotherapy rather than radiotherapy. Schwartz has shown how laparotomy resulted in an elevation of the clinically determined staging in about 30% of the cases, and a reduction of about 20% of cases for a total change in the clinical stage of roughly 50%.

Other advantages of laparotomy are the opportunities of suturing the ovaries out of harm's way in women of child bearing age precluding the major clinical challenge of hypersplenism late in Hodgkin's disease wherein surgical removal carries a prohibitive mortality.

The major objections to laparotomy and splenectomy rest upon the morbidity and mortality of the operation itself. Williams and Ellison have reported a 2% mortality in 388 splenectomies for primary hypersplenism. Two-thirds of these deaths, however, were due to postoperative hemorrhage secondary to thrombocytopenia.<sup>4</sup> Thrombocytopenia is rare or absent in the Hodgkin's patient without advanced disease. Overall mortality from splenectomy in general are not germane to the elective splenectomy performed early in Hodgkin's disease in that the operation is indicated because of major trauma, malignancy or other associated life-threatening diseases. A compilation of mortality figures from appropriate series of staging laparotomies with splenectomy for Hodgkin's disease show seven deaths following 466 splenectomies or 1.5% operative mortality.

The morbidity of splenectomy, namely susceptibility to infection, is a real hazard in children. Splenectomized children are susceptible to fulminating infection due to pneumococcus, meningococcus, hemophilus influenzae, and the Waterhouse-Friderichsen syndrome. In children under four years of age or younger, and 8.1% late mortality from sepsis has been

reported as a sequela of previous splenectomy.<sup>5</sup>

Donaldson has reported on 238 patients with Hodgkin's disease who have undergone splenectomy. There were ten patients with post-splenectomy bacteremia of whom three died. The three patients who died, however, had far advanced disease and/or immunosuppressive therapy. It is impossible to ascribe their deaths specifically to the removal of the spleen as an isolated cause from the advanced stage of the disease and depressed immunologic mechanisms. Of the ten patients mentioned who had bacteremia, five were identified as Stage IV-B, which is extremely advanced Hodgkin's disease and certainly a different patient population from that of the usual patient requiring staging.<sup>6</sup>

The major premise for abdominal staging is to spare the patient unnecessary ionizing irradiation. Radiotherapists in South Carolina desire such information prior to treatment. It is true there are radiotherapists, such as Johnson, who feel that laparotomy is not essential and that the spleen and para-aortic lymph nodes should be irradiated routinely.<sup>7</sup> The complications of such vigorous radiotherapy are not available at the current time.

### CONCLUSION

The approach to Hodgkin's disease in the Cancer Clinic of the Medical University of South Carolina currently involves:

1. Review of the diagnosis and histological classification by an experienced pathologist.
2. Completion of clinical studies as previously outlined with the avoidance of lymphangiograms.
3. Laparotomy and splenectomy for Clinical Stages I through II and unconfirmed Stage IV patients unless some contraindication is present.
4. No irradiation beneath the diaphragm without evidence of the presence of disease in these areas.
5. Deliver a minimum of 4,000 rads of supervoltage irradiation to the areas known to be involved with Hodgkin's disease plus the neighboring lymph



node areas—"extended field irradiation". Prophylactic irradiation is not felt to be indicated.

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### GUEST EDITORIAL BY DR. HAROLD HALEY, PRESIDENT, AMERICAN ASSOCIATION FOR CANCER EDUCATION\*

Limitations in the Concept of Cancer Centers. With the development of cancer institutes, comprehensive cancer centers, and cancer demonstration centers serious thought must be given to some limitations in this concept. This is not to say that we should not have cancer centers, but rather that we should consider certain issues when planning for the development of such centers.

One of the first problems to consider is that the cancer patient may very well have other diseases that need expert care. Complications might also require care by physicians who ordinarily have little or no contact with cancer patients. An example would be the patient with heart disease as well as active cancer. Another is the cancer patient who develops complications such as infection. The availability of a wide spectrum of consultants, specialists and physicians caring for other diseases besides cancer is imperative to the cancer patient. It has been my observation that it is dangerous to be a patient in a specialized hospital and develop another health problem.

Knowledge and function work best in community and not in isolation. Physicians

in a cancer center need stimulation and cross-fertilization with other physicians doing other work and caring for other patients. One of the ways this can be achieved is by providing a social setting within the health care center where such interaction can take place. In the dining room, cancer physicians can join their colleagues in a setting providing much interaction and preventing the development of the cancer center as an island.

A third issue is the isolation of the cancer patient. The stigma of cancer and the cancer center is a real, but unmeasurable factor, in the psychology of patients. It is said that at the Memorial Hospital for Cancer and Allied Diseases, most of the patients feel that they have allied diseases. Because of the mystique of cancer, many cancer patients might better be part of the general hospital population, than having the label "cancer" on them and their status.

For a cancer center to be successful, neither the patient nor his physician can live or function in isolation.

\*Reprinted from the Newsletter on Cancer, Winter, 1973.

Conference title: CANCER, AN INDUSTRIAL MEDICINE SEMINAR  
 Conference date: September 21, 1973, 9 a.m. registration  
 4:30 p.m. adjournment  
 Place: The Carolina Inn, Columbia, S. C.

Cost: \$6.00 registration covers seminar luncheon and evening banquet (for those wishing to remain and attend Annual Meeting Banquet of the South Carolina Division, Inc. Banquet speaker to be Marlin Perkins of NBC's **Wild Kingdom**).

# **AGENDA** **CANCER, AN INDUSTRIAL SEMINAR** **CAROLINA INN**

9:00 a.m.	Registration	Second Floor Lobby
9:30 a.m.	Cancer, Occupational Medicine Problem	E. Cuyler Hammond, Sc.D. American Cancer Society
9:50 a.m.	Environmental Insults to the Respiratory System	Samuel Sandifer, M.D. Russell Harley, M.D. Medical University of S. C.
10:45 a.m.	BREAK	
11:00 a.m.	Cancer, A Personnel Management Problem	Bill Taylor Julian Ott & Associates, Inc.
11:30 a.m.	The Nature of Cancer Affecting Prevention and Practical Clinical Detection for Occupational Medicine—A Panel	William J. Goudelock, M.D. Moderator
12:30 p.m.	Luncheon—Speaker	
2:00 p.m.	Cancer, Industry and the Urse	Gloria Cann, R.N. South Carolina Industrial Nurses Association
2:30 p.m.	The ACS Employee Education Program	Duanne Kenyon National Staff
3:00 p.m.	BREAK	
3:15 p.m.	Special Programs That Work Washington, D. C. Gas Company Quit Clinic Butte Knit Screening Project	Charles Settles Helmut Bittner, Ph.D.
3:45 p.m.	A Panel Summation—Questions and Answers	
4:30 p.m.	Adjourn	



E. Kenneth Aycock, M.D., M.P.H.  
Secretary and State Health Officer

## STATE BOARD OF HEALTH NEWS

### Syphilis Serology in South Carolina

One of the most important services provided by the South Carolina State Board of Health Laboratory is the serological testing for syphilis. This laboratory performs in excess of 300,000 tests annually, providing quantitative results of reactors for practicing physicians and public health laboratories. The report of all reactors **BY THE LABORATORY** is required by law (Section 32-593.1) and should be done without waiting for verification of the diagnosis. The reporting of reactors is the best known means of providing area-wide surveillance and accounts for approximately 25 per cent of South Carolina's total syphilis cases. In addition, Section 32-593 requires **THE PHYSICIAN** to report any cases which he diagnoses. This method of reporting reactors is in the interest of reducing the possible spread of infection and has not resulted in any difficulty or embarrassment.

Laboratory directors should acquaint themselves and share with their staff members the mechanics of the reporting procedure. It is the responsibility of the laboratory director, not the physician submitting the specimen, to report a reactive

serology. When the reactor report is received by the State Board of Health, it is screened against Central Registry files. Since many reactors are already on file, many dispositions can be made immediately. If follow-up is indicated, a representative of the South Carolina State Board of Health Will always contact the physician first, **NOT** the patient. Only a small percent of all reactors require any type of follow-up. However, it is of utmost importance that all reactors be reported in order to maintain a balanced program of control.

South Carolina for many years has had a very high rate of infectious syphilis. If adequate control measures are to be maintained, then our efforts of control, including continued cooperation between public and private laboratories and the State Board of Health Laboratory must continue.

The Bureau of Laboratories will be happy to provide individual bench training in syphilis serology to any interested person or laboratory. This includes VDRL, RPR or FTA-ABS.



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## LOCAL CONTINUING EDUCATION QUALITY ASSESSMENT PROGRAMS AND PSRO ACTIVITIES

VINCE MOSELEY, M.D.

At the 125th Annual Meeting of the SCMA on May 15, the Council and House of Delegates approved the recommendations of a study committee that the Education Committee of the SCMA be permitted to seek approval of the Education Division of the AMA to be named as the accrediting agency for approval of local and in state continuing education programs. Steps are now being taken to prepare for review and approval of the policy and guidelines which the SCMA Education Committee have developed for their use when serving as an accreditation body. A site visit by a team appointed to survey the activities of this committee will be a part of the process necessary for AMA recognition of the Committee's capability to act as an approving agency.

For almost three years the AMA Council on Medical Education has encouraged state medical associations to plan and implement their own programs for accrediting continuing medical education. Such accrediting activities are aimed at continuing medical education offerings by institutions and organizations of local scope and focus.

As the result of such state level accreditation, it is now time for community hospitals to take steps to seek accreditation of their own continuing medical education activities, or if not now providing such programs, learn how to develop CME programs. Continuing education at the local level is increasing steadily thus permitting physicians to participate on a daily basis in their own hospitals while engaged in the care of their patients with a minimum loss of time from practice.

Hospital-based CME provides the ideal location for the determination of educational needs. Committees dealing with patient care problems have developed ways to identify performance deficiencies and educational needs, based on comparisons of actual performance with those standards of

care that have been established by the hospital's own medical staff.

Properly done, these methods for determining educational needs or identifying performance deficiencies provide the data needed to plan for continuing medical education at the local hospital or by the local medical society.

A number of systems for audit and quality of care review are currently being used. It is likely that PSRO regulations will provide for further use of the systems already in vogue, as well as new ones as yet untried. Until the regulations themselves are written in a definitive fashion, however, we must rely upon common sense and the practical ways already developed in this area and use those systems most applicable for a local situation and now acceptable to the physician users.

The CME accreditation system developed by the AMA during the past twelve years has emphasized the need for planning continuing medical education based upon determined needs, particularly as they relate to physician performance and practice habits. The state medical association accreditation activities, now taking place in eleven states and soon to be established in South Carolina, place their emphasis even more strongly than the national program upon CME planning according to the determined need. It should be the most important factor in assisting the physician to choose the area of continuing medical education most likely to improve his delivery of quality health care. There are essentially two (2) routes in which Continuing Education's needs can be planned for or programmed. As recently pointed out by Dr. John D. Porterfield, Director, Joint Commission on Accreditation of Hospitals, in the May 1973 issue of "Continuing Medical Education Newsletter". One enables the physician to "keep up" with the latest developments in the state of the art and allows the physician to "refresh" his



knowledge. This is the prospective approach to continuing medical education. This approach tends to answer only the physician's wishes — what he thinks he wants to know. This is a highly subjective standard and cannot be accepted as wholly accurate. "Indeed, it is the unique physician who knows enough to know what he doesn't know but should, and is so astute as to self-prescribe the correct dose of CME."

The retrospective approach is based on establishing the demonstrated needs of a physician. Using demonstrated needs as the basis is more accurate but is only as good as the method used to demonstrate those needs. It must be designed to accurately pinpoint the real needs of the physician, to be effective, and must meet the physician's needs as retrospectively demonstrated by his current practice, as identified through medical care audit and utilization review studies by professionally certified review groups.

In its concern for quality assurance in the hospital setting, the Joint Commission on Accreditation of Hospitals has developed a system of procedure by which the hospitals' professional staff performs medical care evaluation and audit. (The JCAH has borrowed and adapted elements from other systems and has devised steps of its own, in developing a logical system.) The system includes the utilization of trained but not professional personnel for the time-consuming data extraction tasks which do not themselves require clinical judgment. It is pointed out that the physicians of the staff committee or group performing this task are responsible for establishing the criteria by selecting critical elements, by developing standards, and agreeing upon any exceptions. They then instruct the record clerks or clerical aids as to the data to retrieve from the medical records and how to assemble it for review by the professional members of the review group.

The medical record analyst reviews the clinical records and selects those records which display variations from criteria for physician study, and reports any other data or correlations which are contributory.

No value judgment is placed by the review

group upon a variant practice per se. A physician whose chart shows a variation is not advised that he must conform to the criteria by which the variation was established, but rather that he should explain the reason for the variations observed; and in the audit process, it is his professional colleagues who decide whether the reason was sound.

The medical audit physicians also analyze and attribute deficiencies of patient care to various causes. As examples, a deficiency could be attributed to the institution, its management, or an adopted policy; the entire medical staff may be responsible; or a single practitioner may not lack in requisite knowledge or skill but may neglect to use the knowledge.

From retrospective analysis, appropriate continuing medical education programs may become the recommended answer to demonstrated needs.

Necessarily, there must be follow-up of a CME program or evaluation of the program by this committee or a similar group to observe improvement as a result of CME activities.

Continuing medical education courses and programs are ordinarily not the answer to all deficiencies pinpointed through medical care audit. The medical staff must also exercise its responsibility to limit or remove, when appropriate, clinical privileges. The present comment suggests only that CME programs be audit-specific as a first priority. "Thus retrospective audit study and planned CME programs may not only heal the defects of the past — but serve equally if not better than prospectively planned programs primarily designed to keeping up with the new frontiers of knowledge."

The Joint Commission's methodologies, the criteria development by the specialty societies and the AMA, the QAP of the AHA are all working in the interests of the medical profession and our current challenges.

It is on the basis of these concepts that PSRO requirements as now established by law can be utilized as professional aids under professional guidance for profitable activities and not as punitive measures.



## DEATHS

### DR. THOMAS R. HOWELL, SR.

Dr. Thomas Russell Howell, Sr., 49, a prominent Latta physician, died unexpectedly on June 12 (Mon.). Dr. Howell was a graduate of Bowman Gray School of Medicine and his internship and residency were completed at Roper Hospital. He established his practice in Latta in 1954.

### DR. J. T. GREENE, SR.

Dr. John Thompson Greene, Sr., Elloree physician, died June 18 (Mon.) in an Orangeburg hospital. Dr. Greene was a graduate of the Medical University of South Carolina and was a member of the South Carolina Medical Association and the American Medical Association.

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### WARING HISTORICAL LIBRARY

Two letters from the distinguished South Carolina physician and father of American gynecology, Dr. James Marion Sims have been placed on indefinite loan in the Waring Historical Library of the Medical University of South Carolina.

Both are from his address in New York, 79 Madison Avenue, one dated in 1858 and the other in 1859. They are addressed to General Waddy Thompson of Greenville, S. C., at one time Minister Plenipotentiary to Mexico.

The letters were found by Dr. Hugh S. Thompson, a nephew several generations removed of General Waddy Thompson, as he was going through a trunk of family papers in Darlington, S. C.

One Sims letter describes his treatment of General Thompson's sister and the other is concerned with his treatment of

a friend. The two men were obviously good friends.

Dr. Sims was a student at the Medical College of South Carolina in 1833-34, later graduating from Jefferson Medical College in Philadelphia in 1835.

The donor, Dr. Thompson, is a recent graduate of the Medical University and soon will be starting his internship here in surgery.

---

**RADIOLOGIST**—Will finish residency June, 1974; university trained in diagnosis, nuclear medicine, & therapy; experience in x-ray equipment industry prior to medical school & knows costs, etc., Age 28. Reply to Box A, SCMA, 113 N. Coit St., Florence, S. C. 29501

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# Rondomycin<sup>®</sup>

## (methacycline HCl)

### CONTRAINDICATIONS: Hypersensitivity to any of the tetracyclines.

**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

**Usage in pregnancy.** (See above **WARNINGS** about use during tooth development.) Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal disease when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months. Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS:** Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above. (See **WARNINGS**.)

**Renal toxicity:** rise in BUN, apparently dose related. (See **WARNINGS**.)

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE: Adults**—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea. In uncomplicated gonorrhea, when penicillin is contraindicated, Rondomycin (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of Rondomycin (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

**SUPPLIED:** Rondomycin (methacycline HCl), 150 mg and 300 mg capsules, syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 6/73



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**When the focus is on bronchitis due to  
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**Rondomycin<sup>®</sup> 300** mg.  
**[methacycline HCl]** Capsules

**Delivers from the very first dose:**

**Studies show that after the first dose serum levels rapidly rise above  
minimum *in vitro* inhibitory concentrations**

\*Since many strains are known to be resistant, routine sensitivity testing is recommended.



# The Rx that says "Relax"

**BUTISOL Sodium provides highly predictable sedative effect:** minor dosage adjustments are usually all that's needed to produce the desired degree of sedation. (With 3 dosage forms and 4 strengths to make adjustments easy.)

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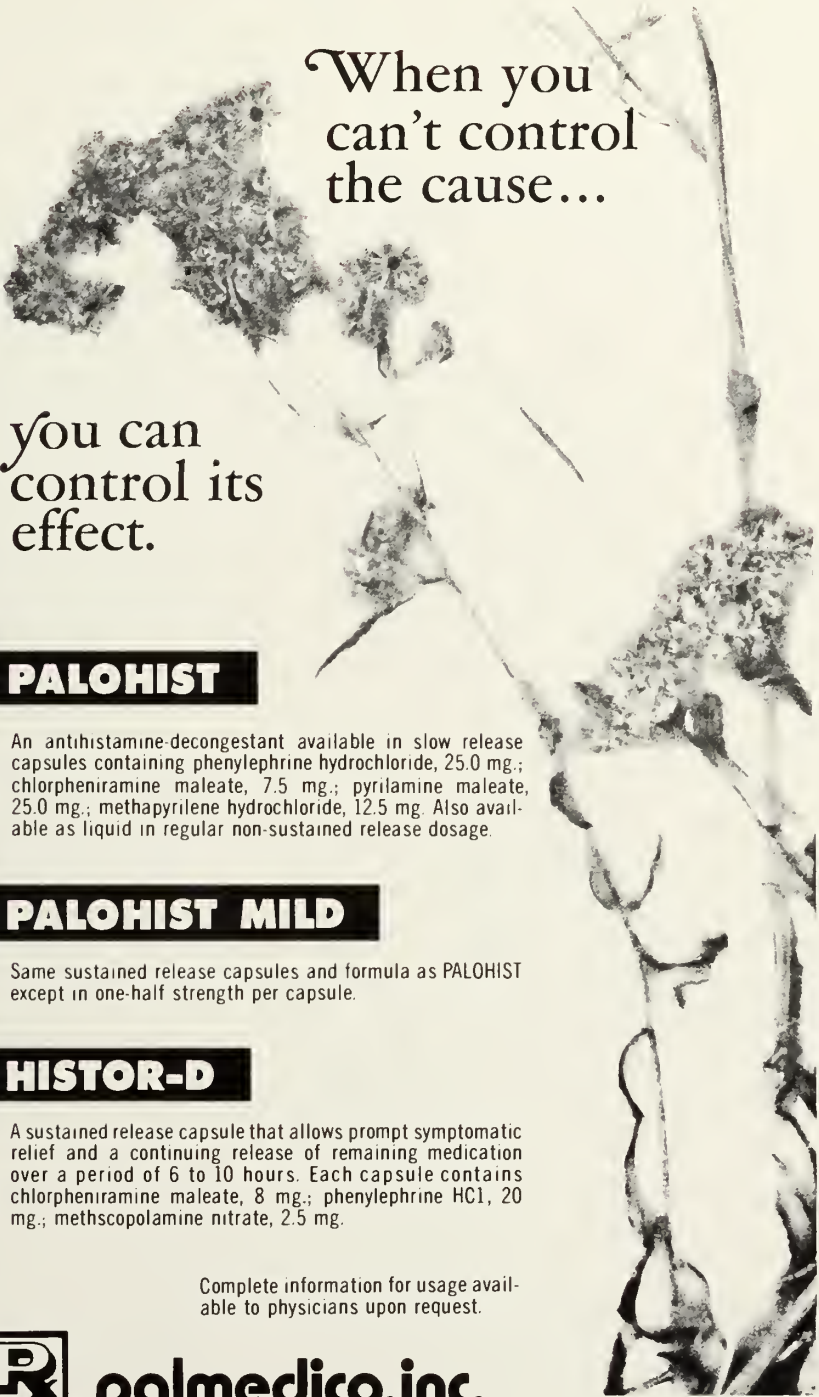
\*Based on surveys of average daily prescription costs.

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(SODIUM BUTABARBITAL)

**Contraindications:** Porphyria, sensitivity to barbiturates, or susceptibility to dependence on sedative-hypnotics. **Warning:** May be habit forming. **Precautions:** Exercise caution in: moderate to severe hepatic disease; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants, because of combined effects. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and gastrointestinal disturbances are seldom seen. **Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg. **Available as:** Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

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the cause...

you can  
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An antihistamine-decongestant available in slow release capsules containing phenylephrine hydrochloride, 25.0 mg.; chlorpheniramine maleate, 7.5 mg.; pyrilamine maleate, 25.0 mg.; methapyrilene hydrochloride, 12.5 mg. Also available as liquid in regular non-sustained release dosage.

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Same sustained release capsules and formula as PALOHIST except in one-half strength per capsule.

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A sustained release capsule that allows prompt symptomatic relief and a continuing release of remaining medication over a period of 6 to 10 hours. Each capsule contains chlorpheniramine maleate, 8 mg.; phenylephrine HCl, 20 mg.; methscopolamine nitrate, 2.5 mg.

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## As strong as Librium® 25 mg (chlordiazepoxide HCl)



The achievement of desired therapeutic results is often a function of the dosage strength as well as the drug's intrinsic action. Thus, when anxiety is *severe*, the 25-mg strength of Librium frequently provides the necessary antianxiety action with a minimum of unwanted adverse reactions. Librium 25 mg is a convenient dosage form for the relief of severe, incapacitating anxiety, specifically formulated to supplement your counsel and reassurance.

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For over 13 years, Librium has been recognized for its excellent benefits-to-risks ratio, an asset in the *higher* dosage ranges as in more common clinical applications. Thus, the frequency of dosage with Librium 25 mg can be flexibly adjusted to the needs and response of the individual patient, up to 100 mg daily if required. Total daily dosage for the elderly and debilitated should not exceed 20 mg. When severe anxiety has been reduced, Librium dosage should be correspondingly reduced or discontinued entirely.



basic support  
in severe anxiety  
**Librium® 25 mg**  
(chlordiazepoxide HCl)  
1 capsule t.i.d./q.i.d.



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Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxious states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

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THE NEW ENGLAND JOURNAL OF MEDICINE



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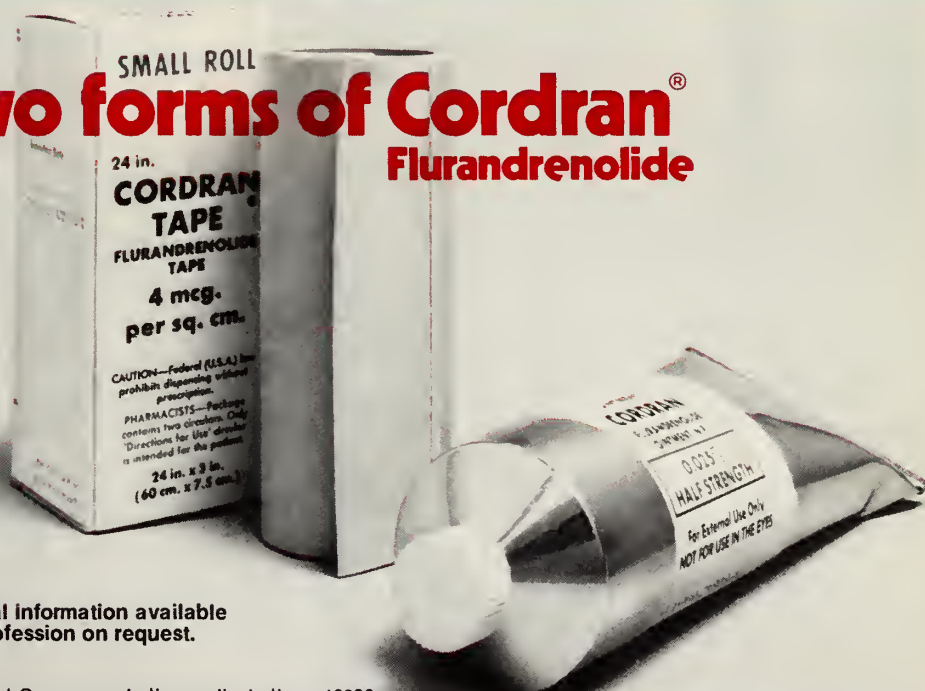
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## **Two forms of Cordran<sup>®</sup>** **Flurandrenolide**



Additional information available  
to the profession on request.

Eli Lilly and Company • Indianapolis, Indiana 46206

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Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counseling



and a few may need counseling  
*and* the psychotropic action of Valium® (diazepam).



Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect.

**Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.



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Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

# Valium® (diazepam)

To help you manage excessive psychic tension



# Pinworm therapy is often a family affair



**Contraindications:** History of hypersensitivity to thiabendazole.

**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.

**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction,

patients should be carefully monitored.

**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live *Ascaris* in the mouth and nose. Hypersensitivity reactions

## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.

*The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).*

MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.

The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	½
50	0.5	1
75	0.75	1½
100	1.0	2
125	1.25	2½
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days.  This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

\*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

# Chewable Tablets<sub>500 mg</sub> Mintezol® (THIABENDAZOLE | MSD)



so easy to take  
everyone in the family  
can keep to the  
regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.  
**Supplied:** Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 ml, in bottles of 120 ml.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., INC., West Point, Pa. 19486



# The Journal of The SOUTH CAROLINA Medical Association

SEPTEMBER, 1973—VOL. 69, NO. 9

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

## Contributions of Original Articles

Mailing address—Edw. E. Kimbrough, M.D., Editor. 2709 Laurel Street, Columbia, S. C. 29204.

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, Arch Int Med 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg. ml, Gm.

Reprints—Reprints will be made for the author at established rates.





# Bobo's back at the big top

After a rheumatoid arthritic flare-up.

**Important Note:** This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Substitute alka capsules for tablets if dyspeptic symptoms occur. Patients should discontinue the drug and report immediately any sign of fever, sore throat, oral lesions (symptoms of blood dyscrasia), dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

**Indications:** Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

**Contraindications:** Children 14 years or less, senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia, history or presence of drug allergy, blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema, stomatitis and salivary gland enlargement due to the drug, polymyalgia rheumatica and temporal arteritis, patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

**Warnings:** Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against potential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy

## Butazolidin® alka Geigy

Each capsule contains:  
100 mg phenylbutazone USP  
100 mg dried aluminum hydroxide gel USP  
150 mg magnesium trisilicate USP

**If it doesn't work in a week, forget it.**

and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug. **Precautions:** The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions, complete physical examination including check of patient's weight, complete weekly (especially for the aging) or an every two week blood check, pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

**Adverse Reactions.** This is a potent drug, its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute

and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia, gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy, CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement. (B)98-146-070-H(10/71)

For complete details, including dosage, please see full prescribing information.

GEIGY Pharmaceuticals  
Division of CIBA-GEIGY Corporation  
Ardley, New York 10502



# More than sleep..

your choice of sleep medication  
is wisely based on more than  
sleep-inducing potential

sleep with  
relative safety

Chronic tolerance studies have confirmed the relative safety of Dalmane (flurazepam HCl); no depression of cardiac or respiratory function was noted in patients administered recommended or higher doses for as long as 90 consecutive nights.

In most instances when adverse reactions were reported, they were mild, infrequent and seldom required discontinuance of therapy. Morning "hang-over" with Dalmane has been relatively infrequent. Dizziness, drowsiness, lightheadedness and the like have been the side effects noted most frequently, particularly in the elderly and debilitated. (An initial dose of Dalmane 15 mg should be prescribed for these patients.)

sleep for 7 to 8 hours  
without need to  
repeat dosage

No sleep medication has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patients given one 30-mg capsule of Dalmane at bedtime, on average: fell asleep within 17 minutes, had fewer nighttime awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to repeat dosage during the night.



sleep with  
consistency

Dalmane has been shown to be consistently effective even during consecutive nights of administration, with no need to increase dosage.

Dalmane (flurazepam HCl) is a distinctive sleep medication—a benzodiazepine specifically indicated for insomnia. It is not a barbiturate or methaqualone, nor is it related chemically to any other available hypnotic.

When your evaluation of insomnia indicates the need for a sleep medication, consider Dalmane—a single entity nonnarcotic, non-barbiturate agent proved effective and relatively safe for relief of insomnia.

# DALMANE<sup>®</sup>

(flurazepam HCl)

## When restful sleep is indicated

**One 30-mg capsule h.s. — usual adult dosage**  
(15 mg may suffice in some patients).

**One 15-mg capsule h.s. — initial dosage for elderly or debilitated patients.**

**Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:**

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening in patients with recurring insomnia or poor sleeping habits, and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

**Contraindications:** Known hypersensitivity to flurazepam HCl.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl.



ROCHE LABORATORIES  
Div., Hoffmann-La Roche Inc.  
Nutley, New Jersey 07110



# A topical steroid that has clinically succeeded

*in study...after study...after study*<sup>1-6</sup>

Excellent/good results

**85%** in psoriasis  
(150 of 177 patients)<sup>1</sup>

**92%** in atopic eczema  
(231 of 251 patients)<sup>1</sup>

The image shows a stack of medical forms, likely from a clinical trial. The forms are titled "CASE REPORT" and "TOPICAL CORTICOSTEROID". They contain various fields for patient information, including name, age, sex, and medical history. There are also sections for "DO NOT WRITE IN THIS AREA" and "PLEASE INDICATE CONTACT REACTION". The forms are filled out with handwritten and printed text, showing the results of the study.

Schering

# Valisone<sup>®</sup>

brand of

## betamethasone valerate (0.1%) Cream/Ointment

Plus economy B.i.d. dosage often found effective!  
Available in 5, 15, and 45 Gm. tubes.

96% in contact dermatitis  
(81 of 84 patients)<sup>1</sup>

### CLINICAL CONSIDERATIONS:

**Description** VALISONE products contain betamethasone valerate (9-fluoro-11 $\beta$ ,17,21-trihydroxy-16 $\beta$ -methylpregna-1,4-diene-3,20-dione 17-valerate). Each gram of VALISONE Cream 0.1% contains 1.2 mg. betamethasone valerate (equivalent to 1.0 mg. betamethasone), in a soft, white, hydrophilic cream of water, mineral oil, petrolatum, polyethylene glycol 10 monocetyl ether, cetostearyl alcohol, monobasic sodium phosphate, and phosphoric acid; 4-chloro-m-cresol is present as a preservative. Each gram of VALISONE Ointment 0.1% contains 1.2 mg. betamethasone valerate (equivalent to 1.0 mg. betamethasone) in an ointment base of liquid and white petrolatum, and hydrogenated lanolin. VALISONE Cream and Ointment contain no parabens.

**Indications** VALISONE Cream and Ointment are indicated for the relief of the inflammatory manifestations of corticosteroid responsive dermatoses.

**Contraindications** VALISONE Cream and Ointment are contraindicated in vaccinia and varicella. Topical steroids are contraindicated those patients with a history of hypersensitivity to any of the components of the preparation.

**Precautions** If irritation develops with the use of VALISONE Cream or Ointment, treatment should be discontinued and appropriate therapy instituted. In the presence of an infection, the use of an appropriate antifungal or antibacterial agent should be instituted. If a favorable response does not occur promptly, the corticosteroid should be discontinued until the infection has been adequately controlled. If extensive areas are treated or if the occlusive technique is used, the possibility exists of increased systemic absorption of the corticosteroid and suitable precautions should be taken. Although topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use in pregnant females has not been absolutely established. Therefore they should not be used extensively in pregnant patients, in large amounts, or for prolonged periods of time. VALISONE Cream and Ointment are not for ophthalmic use.

**Adverse Reactions** The following local adverse reactions have been reported with topical corticosteroids: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, and hypopigmentation. The following may occur more frequently with occlusive dressings than without such therapy: maceration of the skin, secondary infection, skin atrophy, striae, and miliaria.

**Dosage and Administration** Apply a thin film of VALISONE Cream or Ointment to the affected skin areas one to three times a day. Clinical studies of VALISONE have indicated that dosage only once or twice a day is often feasible and effective. AUGUST 1972  
For more complete details, consult Schering literature available from your Schering Representative or Professional Services Department, Schering Corporation, Kenilworth, New Jersey 07033.

**References:** (1) Files of Headquarters Medical Research Division, Schering Corporation. (2) Carter, V. H., and Noonin, R. O.: *Curr. Therap. Res.* 9:253, 1967. (3) Falk, M. S.: *Cutis* 2:788, 1966. (4) Goldblum, R. W.: *Pennsylvania Med.* 69:50, 1966. (5) Nierman, M. M.: *J. Indiana M. A.* 10:1184, 1966. (6) Zimmerman, E. H.: *Arch. Dermat.* 95:514, 1967.

DO NOT WRITE IN THIS AREA

SCHERING LABORATORIES  
TOPICAL CORTICOSTEROID  
CASE REPORT

PLEASE TYPE OR PRINT  
COMPLETE ALL SECTIONS  
DO NOT WRITE IN THIS AREA  
FOR PATIENT IDENTIFICATION

NAME: [ ] SEX: [ ] AGE: [ ] RACE: [ ]

DATE: [ ]

PLEASE INDICATE CORRECT RESPONSE BY CHECKING APPROPRIATE NUMBER

1. PRIMARY DIAGNOSIS (SEE INSTRUCTIONS)

2. ATOPIC DERMATITIS

3. CONTACT DERMATITIS

4. SEBORRHEIC DERMATITIS

5. LICHEN SIMPLEX CHRONICUS

6. ATROPHIC

7. SOLAR DERMATITIS

8. OTHER (SPECIFY)

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# ROCHE announces new

# BACTRIM<sup>TM</sup>

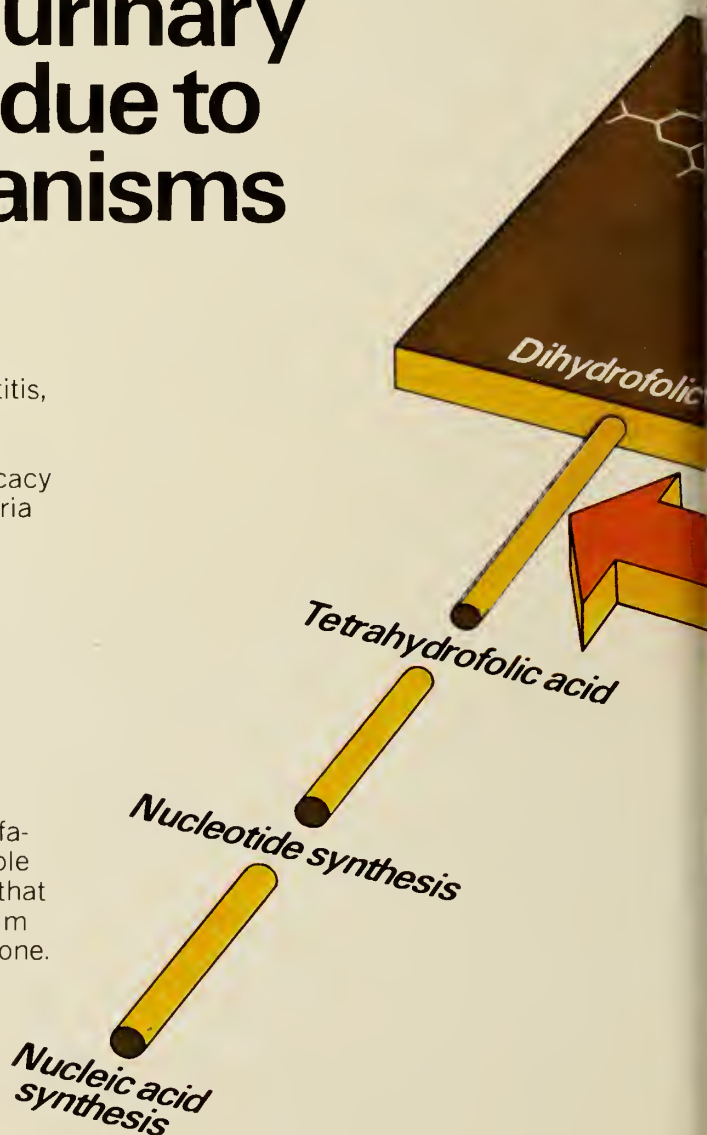
Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

## a new type of antibacterial for a two-pronged attack against chronic urinary tract infections due to susceptible organisms

Bactrim is highly effective in the treatment of these infections—primarily pyelonephritis, pyelitis and cystitis, when due to susceptible organisms (usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species). This efficacy is related to the unique mode of action against bacteria (see opposite page), an action that, in effect, makes Bactrim a new type of antibacterial.

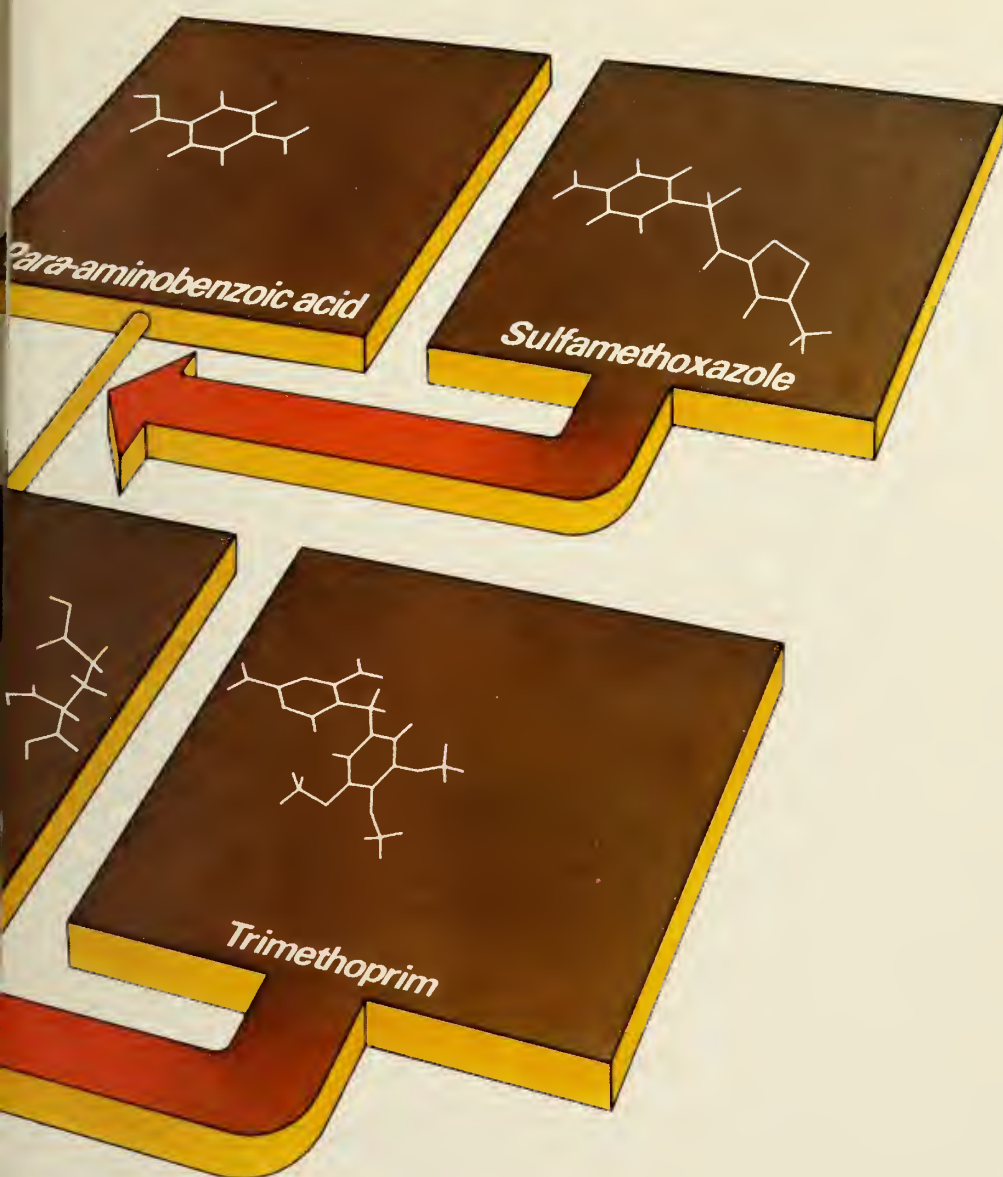
### Bactrim significantly superior to constituents in patients with obstructive complications

In the presence of obstructive uropathy, Bactrim has demonstrated efficacy which is superior to either sulfamethoxazole or trimethoprim alone against susceptible organisms. In addition, *in vitro*\* studies have shown that bacterial resistance develops more slowly with Bactrim than with either trimethoprim or sulfamethoxazole alone.



\*Please note that clinical conclusions cannot be extrapolated from *in vitro* studies.





## interrupts life cycle of susceptible bacteria

*Unique mode of action interrupts the life cycle at two important points, thereby impeding the production of nucleic acids and proteins essential to these bacteria. These consecutive interruptions occur because sulfamethoxazole and trimethoprim resemble naturally existing substrates. By competitive replacement of these substrates, they inhibit further synthesis.*

new **BACTRIM**<sup>TM</sup>

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

**for chronic urinary tract infections**

Before prescribing, please see complete product information on last page of advertisement.

## Excellent clinical response in chronic urinary tract infections

A multiclinic, double-blind study\* of response to a ten-day course of therapy in 471† patients with chronic urinary tract infections demonstrated the superiority of Bactrim. On the 10th day after initiation of therapy, 91.7% (of 168 patients) showed significant bacteriological response to Bactrim compared with 81.2% (of 144 patients) to trimethoprim and 64.5% (of 155 patients) to sulfamethoxazole. In patients with obstructive complications, 10th day response was 94.8% (of 97 patients) to Bactrim, 72.9% (of 85 patients) to trimethoprim and 58.5% (of 94 patients) to sulfamethoxazole.

## Excellent response maintained

Bactrim proved equally impressive in maintaining this bacteriological response. In the above study, after ten-day therapy with Bactrim, 68.4% of patients with chronic urinary tract infections maintained response for up to 42 consecutive days, compared with 59.7% with trimethoprim and 44.4% with sulfamethoxazole. In patients with obstruction, 70.8% of those on Bactrim maintained response for up to 42 consecutive days, compared

with 49.4% on trimethoprim and 38.8% on sulfamethoxazole. The figures are particularly remarkable in cases with urinary obstruction—cases regarded as being notoriously difficult to treat.

## To date, low incidence of significant side effects

Although Bactrim demonstrated impressive clinical results, it is important to note that the incidence of clinically significant adverse effects was low, mainly nausea and/or vomiting, rash, leukopenia, SGOT increase and creatinine increase.

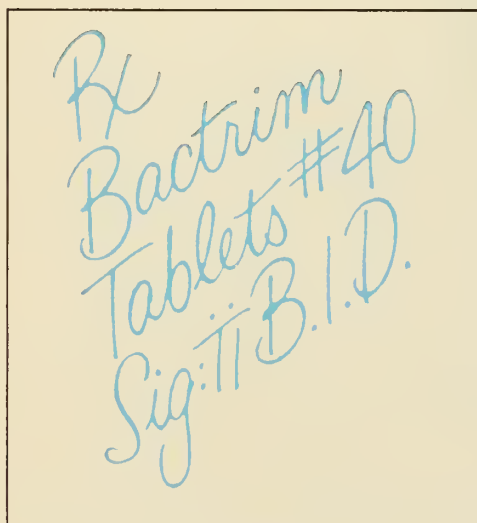
Bactrim should be given with caution to patients with impaired renal or hepatic function, possible folate deficiency and to those with severe allergy or bronchial asthma. Adequate fluid intake must be maintained. Complete blood counts, urinalyses with careful microscopic examination, and renal function tests should be performed during therapy.

Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.

**Usual adult dosage: two tablets every twelve hours for 10 to 14 days; no loading dose required.**

\* Data on file, Hoffmann-La Roche Inc., Nutley, N.J. 07110

† 4 patients not available for evaluation at day 10.



new

# BACTRIM™

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

## for chronic urinary tract infections



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

Before prescribing, please consult complete product information on facing page.



Complete Product Information:

**Description:** Bactrim is a synthetic antibacterial combination product, available in scored light-green tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole.

Trimethoprim is 2,4-diamino-5-(3,4,5-trimethoxybenzyl) pyrimidine. It is a white to light-yellow, odorless, bitter compound with a molecular weight of 290.3.

Sulfamethoxazole is N<sup>1</sup>-(5-methyl-3-isoxazolyl)sulfanilamide. It is an almost white in color, odorless, tasteless compound with a molecular weight of 253.28.

**Actions: Microbiology:** Sulfamethoxazole inhibits bacterial synthesis of dihydrofolic acid by competing with para-aminobenzoic acid. Trimethoprim blocks the production of tetrahydrofolic acid from dihydrofolic acid by binding to and reversibly inhibiting the required enzyme, dihydrofolate reductase. Thus, Bactrim blocks two consecutive steps in the biosynthesis of nucleic acids and proteins essential to many bacteria.

*In vitro* studies have shown that bacterial resistance develops more slowly with Bactrim than with trimethoprim or sulfamethoxazole alone.

*In vitro* serial dilution tests have shown that the spectrum of antibacterial activity of Bactrim includes the common urinary tract pathogens with the exception of *Pseudomonas aeruginosa*. The following organisms are usually susceptible: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and indole-positive proteus species.

Representative Minimum Inhibitory Concentration Values for Bactrim-Susceptible Organisms (MIC—mcg/ml)				
Bacteria	Trimethoprim alone	Sulfamethoxazole alone	TMP/SMX (1:20) TMP SMX	
<i>Escherichia coli</i>	0.05—1.5	1.0 —245	0.05—0.5	0.95— 9.5
<i>Proteus</i> spp. indole positive	0.5 —5.0	7.35 —300	0.05—1.5	0.95—28.5
<i>Proteus mirabilis</i>	0.5 —1.5	7.35 — 30	0.05—0.15	0.95— 2.85
<i>Klebsiella-Enterobacter</i>	0.15—5.0	0.735—245	0.05—1.5	0.95—28.5

**Human Pharmacology:** Bactrim is rapidly absorbed following oral administration. The blood levels of trimethoprim and sulfamethoxazole are similar to those achieved when each component is given alone. Peak blood levels for the individual components occur one to four hours after oral administration. The half-lives of sulfamethoxazole and trimethoprim, 10 and 16 hours respectively, are relatively the same regardless of whether these compounds are administered as individual components or as Bactrim. Detectable amounts of trimethoprim and sulfamethoxazole are present in the blood 24 hours after drug administration. Free sulfamethoxazole and trimethoprim blood levels are proportionately dose-dependent. On repeated administration, the steady-state ratio of trimethoprim to sulfamethoxazole levels in the blood is about 1:20.

Sulfamethoxazole exists in the blood as free, conjugated and protein-bound forms; trimethoprim is present as free, protein-bound and metabolized forms. The free forms are considered to be the therapeutically active forms. Approximately 44 percent of trimethoprim and 70 percent of sulfamethoxazole are protein-bound in the blood. The presence of 10 mg percent sulfamethoxazole in plasma decreases the protein binding of trimethoprim to an insignificant degree; trimethoprim does not influence the protein binding of sulfamethoxazole.

Excretion of Bactrim is chiefly by the kidneys through both glomerular filtration and tubular secretion. Urine concentrations of both sulfamethoxazole and trimethoprim are considerably higher than are the concentrations in the blood. When administered together as in Bactrim, neither sulfamethoxazole nor trimethoprim affects the urinary excretion pattern of the other.

**Indications:** Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species).

**Important note:** Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.

**Contraindications:** Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period (see Reproduction Studies).

**Warnings:** Deaths associated with the administration of sulfonamides have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Experience with trimethoprim alone is much more limited, but it has been reported to interfere with hematopoiesis in occasional patients. In elderly patients concurrently receiving certain diuretics, primarily thiazides, an increased incidence of thrombopenia with purpura has been reported.

The presence of clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts should be done frequently in patients receiving Bactrim. If a significant reduction in the count of any formed blood element is noted, Bactrim should be discontinued.

At the present time, there is insufficient clinical information on the use of Bactrim in infants and children under 12 years of age to recommend its use.

**Precautions:** Bactrim should be given with caution to patients with impaired renal or hepatic function, to those with possible folate deficiency and to those with severe allergy or bronchial asthma. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis may occur. This reaction is frequently dose-related. Adequate fluid intake must be maintained in order to prevent crystalluria and stone formation. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

**Adverse Reactions:** For completeness, all major reactions to sulfonamides and to trimethoprim are included below, even though they may not have been reported with Bactrim.

**Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia.

**Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis.

**Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis.

**C.N.S. reactions:** Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness.

**Miscellaneous reactions:** Drug fever, chills, and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L. E. phenomenon have occurred.

The sulfonamides bear certain chemical similarities to some goitrogens, diuretics (acetazolamide and the thiazides) and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents. Rats appear to be especially susceptible to the goitrogenic effects of sulfonamides, and long-term administration has produced thyroid malignancies in the species.

**Dosage and Administration:** Not recommended for use in children under 12 years of age.

The usual adult dosage is two tablets every 12 hours for 10 to 14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

**How Supplied:** Tablets, containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 1000; Prescription Paks of 40, available singly and in trays of 10. Imprint on tablets: ROCHE 50.

**Reproduction Studies:** In rats, doses of 533 mg/kg sulfamethoxazole or 200 mg/kg trimethoprim produced teratological effects manifested mainly as cleft palates. The highest dose which did not cause cleft palates in rats was 512 mg/kg sulfamethoxazole or 192 mg/kg trimethoprim when administered separately. In two studies in rats, no teratology was observed when 512 mg/kg of sulfamethoxazole was used in combination with 128 mg/kg of trimethoprim. However, in one study, cleft palates were observed in one litter out of 9 when 355 mg/kg of sulfamethoxazole was used in combination with 88 mg/kg of trimethoprim.

In rabbits, trimethoprim administered by intubation from days 8 to 16 of pregnancy at dosages up to 500 mg/kg resulted in higher incidences of dead and resorbed fetuses, particularly at 500 mg/kg. However, there were no significant drug-related teratological effects.

**BACTRIM™**

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.



Roche Laboratories  
Division of Hoffmann-La Roche Inc  
Nutley, N.J. 07110



# Clean Sweep



## with a single dose of Antiminth

(pyrantel pamoate) ORAL SUSPENSION

Highly effective against  
pinworm and roundworm

Non-staining to teeth  
or oral mucosa on ingestion, to  
stools, clothing, linen

Simple dosage with a  
single-dose regimen: 1 cc. per  
10-lb. body weight (1 tsp./50 lb.;  
maximum dose, 4 tsp.)

Well-tolerated, based on  
clinical studies\*

Pleasant-tasting, easy-to-  
take, caramel-flavored oral  
suspension

Economical, because one  
prescription can treat the entire  
family

**ROERIG** 

A division of Pfizer Pharmaceuticals  
New York, New York 10017

# ANTIMINTH<sup>®</sup>

## (pyrantel pamoate)

equivalent to 50 mg. pyrantel/ml.

ORAL SUSPENSION

While Antiminth is highly effective against pinworms and roundworms, the illustration is not meant to imply 100% efficacy.  
\*Data on file at Roerig. Please see prescribing information on facing page.

# ALCOHOLISM

## DRUG ADDICTION

### And Other Drug Dependency Conditions

*Willingway Hospital*



*Luxurious Homelike Atmosphere*

A unique original program of recovery with a different approach.  
For information or to admit patients contact:

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Administrator



**Because you  
practice  
medicine in the  
Palmetto State...**

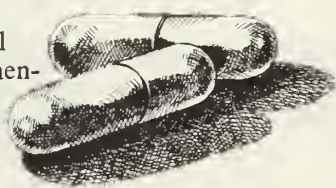




**You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®**

### **Helps reduce anxiety-related G.I. symptoms**

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



### **Patient-oriented dosage — up to 8 capsules daily in divided doses**

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

**To help relieve anxiety-linked symptoms in gastritis and duodenitis**

**adjunctive Librax®**



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, New Jersey 07110



### CLAIMS VOLUME TOPS RECORDS

In July, first month of the fiscal year and first month of our administration of physicians' claims under Medicaid, we received the greatest number of claims, 60,302, ever received in one month from physicians in South Carolina.

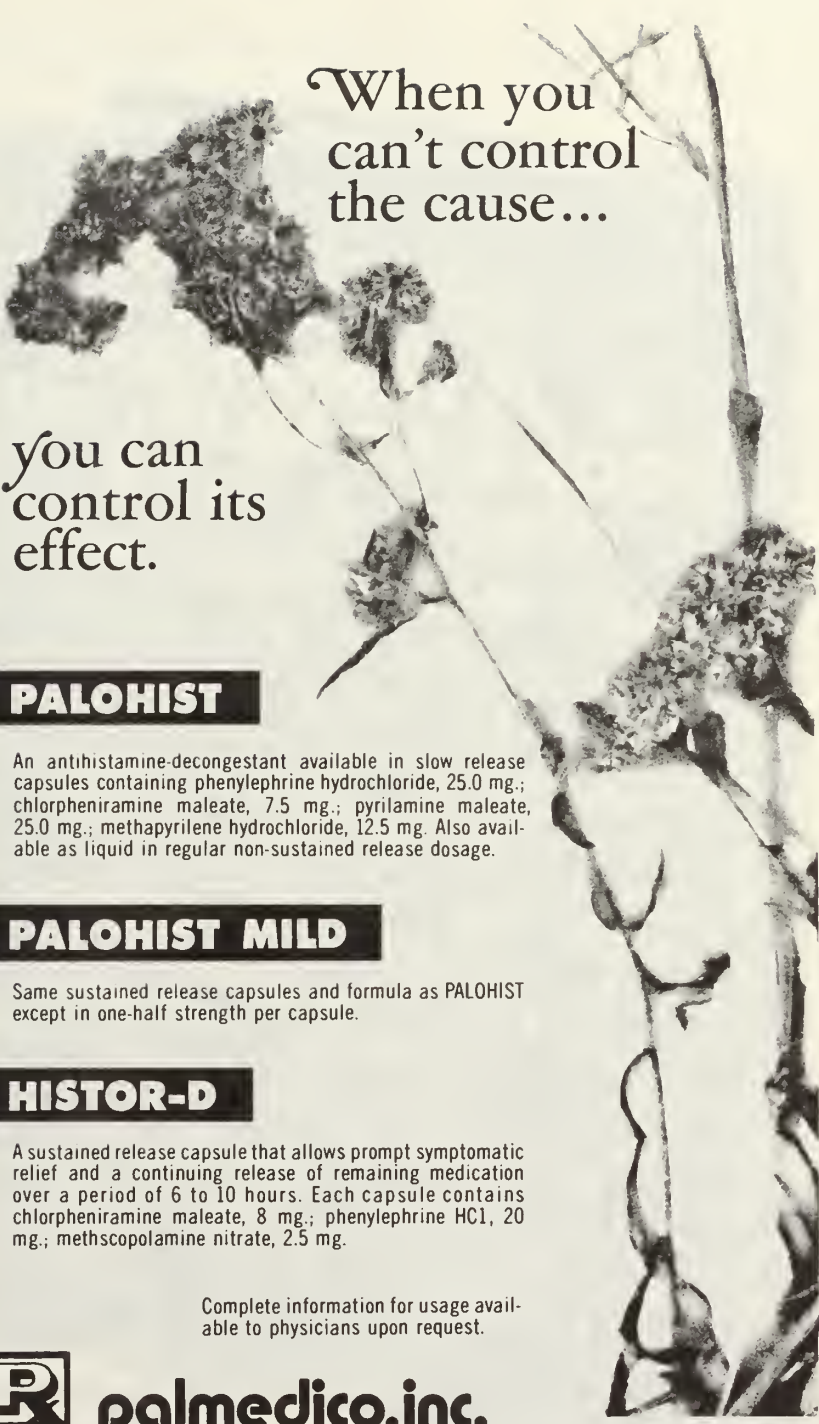
	<u>BLUE SHIELD</u>	<u>MEDICARE</u>	<u>MEDICAID</u>
Claims rec'd:	24,140	27,778	8,384
Benefit paid:	\$1,105,639	\$1,361,807	\$98,512

We expect that the Medicaid claims volume will eventually level off at about 40,000 monthly. Total claims volumes have risen during the past six months at an annualized rate of 25 per cent.

Thus, computerization is essential to fast and accurate benefit payments. And computerization requires coding of medical and surgical procedures.

The code you enter on your claim serves a dual purpose. It secures your benefit payment in that instance, and also contributes to the automatic construction of the profile of your charges that, in turn, governs the amount of payment you will receive in future instances.

It is, therefore, in the direct interest of each physician for his own office staff to correctly code each of his claims. Medicaid claims cannot be paid unless the procedures are coded on the claim before you file it. We urge you to improve your collections by coding your Blue Shield and Medicare claims as well.



When you  
can't control  
the cause...

you can  
control its  
effect.

### **PALOHIST**

An antihistamine-decongestant available in slow release capsules containing phenylephrine hydrochloride, 25.0 mg.; chlorpheniramine maleate, 7.5 mg.; pyrilamine maleate, 25.0 mg.; methapyrilene hydrochloride, 12.5 mg. Also available as liquid in regular non-sustained release dosage.

### **PALOHIST MILD**

Same sustained release capsules and formula as PALOHIST except in one-half strength per capsule.

### **HISTOR-D**

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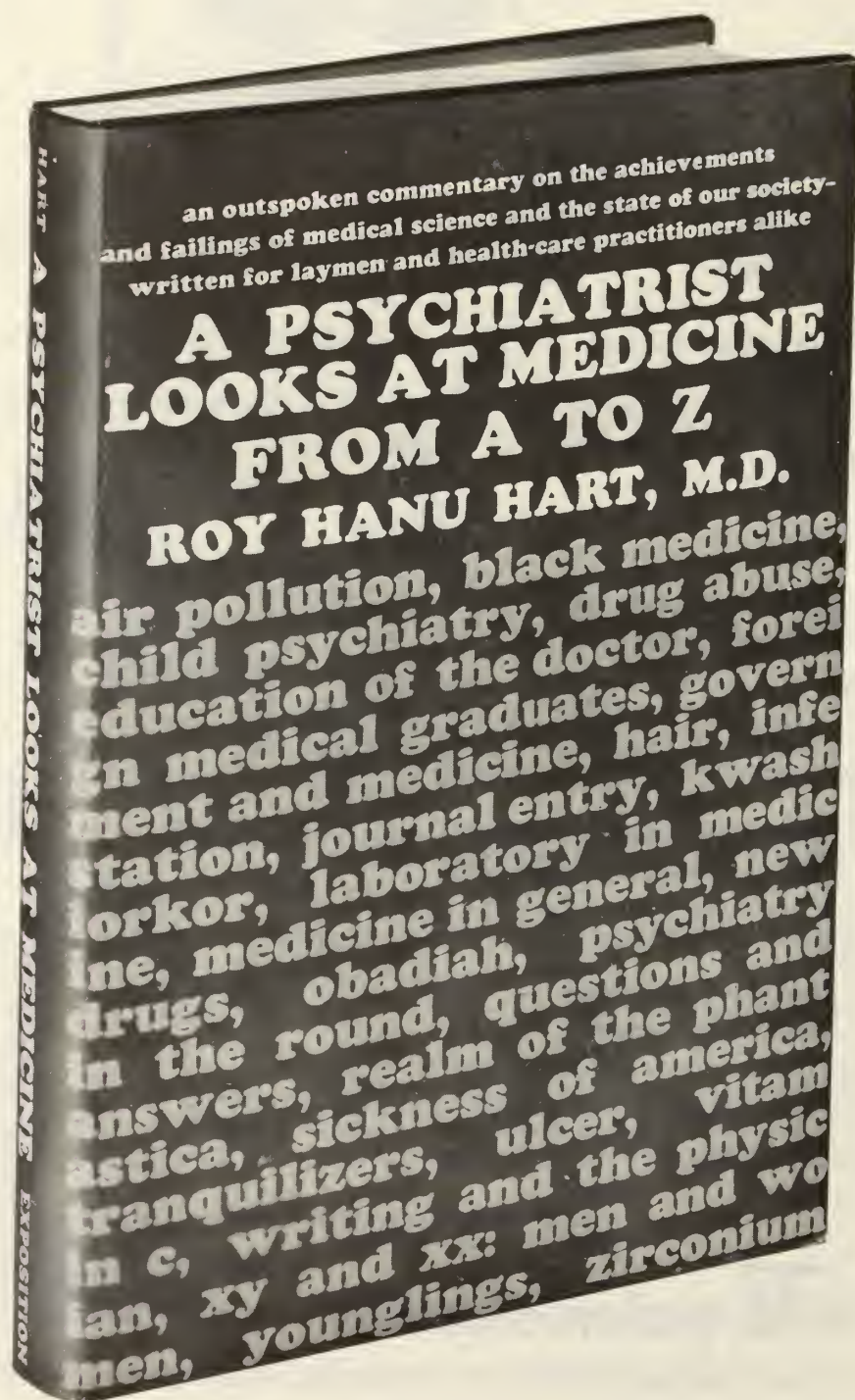


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# Opinion & Dialogue

## "Prescription drugs – who should determine the maker?"

### Dispenser of Medicine

Clifton J. Latiolais  
President  
American  
Pharmaceutical  
Association



### Maker of Medicine

C. Joseph Stetler  
President  
Pharmaceutical  
Manufacturers  
Association



"Too many doctors are indifferent to the economic consequences of their decisions." So stated a recent issue of *Medical News Report* (December 4, 1972), an independent weekly newsletter published by former AMA Chief Executive F. J. L. Blasingame, M.D.

#### Doctor, are you indifferent...?

In discussing an anticipated increase in Blue Shield rates, Dr. Blasingame's newsletter had this to say:

"In general, it can be said, MD's have given the impression they are not particularly concerned with the increase in cost of health care to their patients..."

"True, an MD's training is primarily scientific, but in the real world of practice, all of his scientific decisions have a price tag, or an economic impact. The economics of health care beckon the practitioner's attention. Concern for economics of medicine

When the pharmacist recommends that a drug product other than the one ordered be dispensed, the prescriber invariably permits the change when he feels the best interests of the patient will be served.

#### Shortcomings of Pro-Substitution Argument

The fact remains that it is necessary for the prescriber to know that the change is being contemplated, and to be in a position to consent or demur. Without that opportunity, the unilateral decision of the pharmacist, made in the absence of clinical knowledge of the patient, could expose him to needless risks, and in addition, jeopardize the relationship between the professions of Pharmacy and Medicine. In my view, there is nothing in the pro-substitution argument that offsets these risks.

#### The Issue of Drug Knowledge

Substitution advocates claim that the primary justification for changing the rules is the desire to better utilize pharmacists' knowledge about drugs. Yet the pharmacist's task to keep current on the entire field of drug therapy, to some degree, puts him at a disadvantage. Most often, a practicing physician will need expert knowledge of no more than 25



should be an obligation of medical practice...

"Medical societies ought to conduct continuing campaigns to point out the substantial savings that could be realized thru deductible insurance and protection for catastrophic illness. At the very least, they should, in the patients' interest, question the tactics of any insurance organization that raises health care costs by forcing policyholders to buy insurance they may not need or want and probably won't ever use.

"Too many doctors are indifferent to the economic consequences of their decisions. Too many, for example, habitually hospitalize patients for the convenience of the MD. It's nonsense to deny such habits exist...

"Doctors, thru their medical societies, have unhesitatingly appealed to their patients for support in the fight against government interference with the private practice of medicine. And the public in the past has responded. It's time the American Medical Association and state and local medical societies paid off the debt by decisive action to hold down the cost of medical care."

#### Cost of Drugs

Insurance rates and hospital charges are only two factors in health

care costs. The cost of drugs—both prescription and nonprescription—is another.

And when it comes to drug costs, the nation's pharmacists are concerned. Through their national professional society, the American Pharmaceutical Association, pharmacists are advising the public to use nonprescription medication cautiously and conservatively, and to seek the advice of their pharmacist before selecting or purchasing such drugs.

#### Outdated Laws

The pharmacist also is aware that when it comes to prescription drugs, often he has an even greater opportunity to reduce the cost to the patient—with no sacrifice in the quality of the medication dispensed. But in many states, outdated and antiquated laws prevent the pharmacist from engaging in drug product selection. "Drug product selection" simply means that the pharmacist functions in the patient's interest by consciously choosing, from the multiple brands available, a low-cost quality brand of the specific drug to be dispensed in response to the physician's prescription order.

Much *misinformation* has been purposely spread by those who stand to gain financially by maintaining

high drug costs to the public. An endless stream of propaganda has emanated from the drug industry in an effort to persuade the medical profession that these so-called anti-substitution laws should be retained. And as long as these laws are retained, the drug industry will continue its current marketing practices which contribute unnecessarily to high drug costs to patients. These practices also are inviting government agencies to expand their restrictive controls on physicians and pharmacists.

#### APhA Efforts

As pharmacists, we are concerned about health care costs. We hope that every physician shares our concern on this vital issue, and will give his personal support to the constructive efforts APhA has undertaken in the interest of all patients.

*(For a complete discussion of drug product selection, you are invited to request a free copy of the "White Paper on the Pharmacist's Role in Product Selection" from: American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037.)*

or 30 drugs that he selects to treat the majority of conditions encountered in his practice. Moreover, the physician's choice of a specific brand is based on his knowledge of the patient's medical history and current condition, and his experiences with the particular manufacturer's product.

Some substitution proponents have argued that the dispensing of a prescription is a simple two-party transaction between the pharmacist and the patient, and that a substituting pharmacist may avoid even a technical breach of contract by simply notifying the patient that he is making the substitution. I would judge that few courts would be sympathetic toward a pharmacist who substituted without physician approval and who undertook a legal defense that seeks to make the patient responsible for the pharmacist's actions.

#### Reduced Prescription Prices?

Substitution advocates are suggesting to the consumer, and particularly the consumer activist, that reduced prescription prices could follow legalization of substitution. We have seen absolutely no evidence to justify this claim. To the contrary, experience in Alberta, Canada, where substitution is authorized, suggests

the opposite.

Many pharmacists understandably are concerned about the cost of maintaining multiple stocks of similar products. While there is no doubt that inventory costs rise when additional brands are stocked, it would be interesting to know how much they rise, and how many pharmacists actually stock *all* brands—of, say, ampicillin or tetracycline—or how long they keep "slow moving" products on their shelves before they are returned for credit. To ask that the industry eliminate multiple sources is to ask competitors to stop competing.

#### Drug Substitution—A License for the Unethical

Anti-substitution repeal would favor "corner cutting" pharmacists and manufacturers. For them, free substitution would be not a right, but a license. As an aftermath, it is quite likely that the confidence of both physicians and patients in the profession of Pharmacy would be eroded, as revelations about the unconscionable behavior of an undisciplined few were magnified in the press or in professional circles.

#### Summary

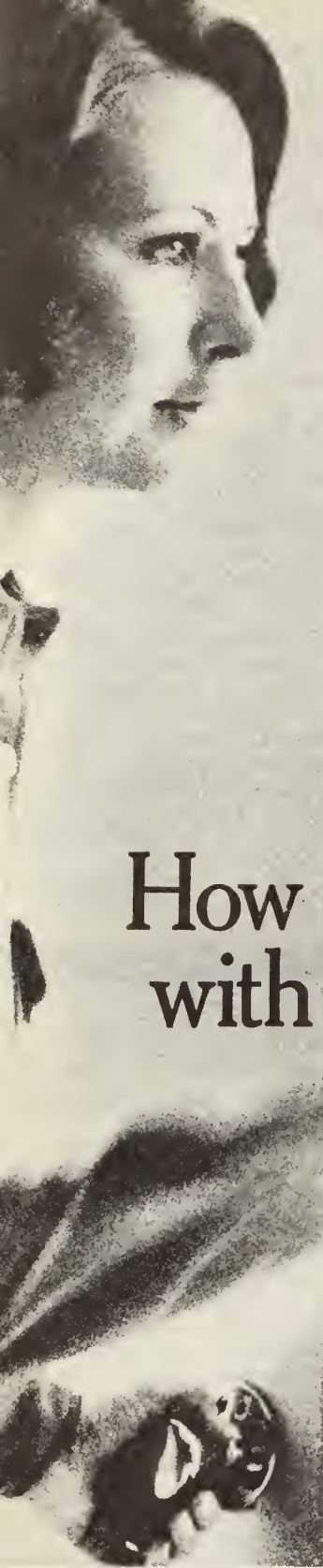
In short, what the American Pharmaceutical Association advo-

cates as a broad-spectrum panacea looks to us to be not only a minority view (advocacy of substitution is by no means a uniform policy in Pharmacy), but also an extraordinarily costly and ineffective remedy, whose side effects are odious. We believe (1) that an impressive majority of pharmacists prefer to work with Medicine and with industry, for the consumer, and for the general good, (2) that they seek the privilege to substitute when the patient might gain and when the patient's doctor agrees, and (3) that they seek to work for the resolution of genuine grievances openly and professionally.

*(For amplification of PMA views, please write for our booklet, "The Medications Physicians Prescribe: Who Shall Determine the Source?" It is available from: Pharmaceutical Manufacturers Association, 1155 Fifteenth Street, N.W., Washington, D.C. 20005.)*

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Success in preventing recurrence of urinary tract infection usually depends on success in treating the initial infection. And that in turn is closely linked to factors of proper drug, proper dosage, and *proper length of therapy*. Much of the effectiveness of an antibacterial agent used to treat an acute nonobstructed urinary tract infection depends, in fact, upon proper length of therapy. As you know, it is potentially hazardous for a patient to discontinue her medication too soon; on the other hand, overtreatment has no advantage and may even cause adverse reactions.

#### **Total therapy: 14 days**

Some recent studies suggest that therapy in acute nonobstructed urinary tract infections should be continued for 10 to 14 days even

if patients become asymptomatic in 2 or 3 days, as they often do.<sup>1-11</sup> After inadequate treatment, of course, survival of bacteria can cause a quick recurrence of infection.

The problem of persuading a patient to complete the full course of therapy remains difficult. Perhaps agreeing on the date for a follow-up examination at the end of medication may be the most effective way of convincing a less than enthusiastic patient to continue therapy even after she becomes asymptomatic.

As a urinary antibacterial, Gantrisin (sulfisoxazole) Roche offers your patient important advantages, some of which may help increase patient cooperation.

#### **High urinary and plasma levels**

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**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Nonobstructed urinary tract infections (mainly cystitis, pyelitis, pyelonephritis) due to susceptible organisms.

**IMPORTANT NOTE:** *In vitro* sensitivity tests not always reliable; must be coordinated with bacteriological and clinical response. Add aminobenzoic acid to follow-up culture media. Increasing frequency of resistant organisms limits usefulness of antibacterial agents, especially in chronic and recurrent urinary infec-

tions. Maximum safe total sulfonamide blood level, 20 mg/100 ml; measure levels as variations may occur.

**Contraindications:** Hypersensitivity to sulfonamides; infants less than 2 months of age; pregnancy at term and during the nursing period.

**Warnings:** Safety in pregnancy not established. Do not use for Group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dys-

crasias. Sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. CBC and urinalysis with careful microscopic examination should be performed frequently.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy or bronchial asthma. Hemolysis, frequently dose-related, may occur in glucose-6-phosphate dehydrogenase-deficient patients. Maintain adequate fluid intake to prevent crystalluria and stone formation.



reached in 2 to 3 hours and can be maintained on the recommended 8 Gm/day dosage schedule that's convenient for almost all patients.

### Generally good tolerance

Gantrisin (sulfisoxazole) Roche causes relatively few undesirable reactions, and serious toxic reactions are rare. Minor reactions are comparatively infrequent, but may include nausea, headache and vomiting. Gantrisin may usually be given safely, even for prolonged periods, in the treatment of chronic or recurrent nonobstructed cystitis, pyelitis or pyelonephritis due to *E. coli* and other susceptible organisms.

(See Important Note in summary of product information.)

Complete blood counts and urinalyses, with microscopic examination, should be performed frequently.

### High solubility

Gantrisin is one of the most soluble of all sulfonamides, with both free and acetylated forms highly soluble in the commonly encountered urinary pH range of 5.5 to 6.5. Urine levels have been detected in 60 minutes; therapeutic levels are usually reached in 2 to 3 hours. About 90% of a single dose is excreted in 24 to 48 hours. As with all sulfonamides, adequate fluid intake must be maintained.

### Economy

Average cost of therapy is still only about 6½¢ per tablet.

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Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; *Miscellaneous reactions:* Drug fever, chills and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred. Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have

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# The Journal

of the

## South Carolina Medical Association

VOLUME 69

SEPTEMBER, 1973

VOLUME 9

### THE IMPORTED FIRE ANT

#### A Newly Recognized Public Health Problem in South Carolina

R. SCOTT LAWRENCE, B. A.\*

JULIAN E. KEIL, M. S.\*

LAURIE L. BROWN, M. D.\*\*

H. B. JACKSON, Ph. D.\*\*\*

#### INTRODUCTION

Imported fire ants (*Solenopsis saevissima*) are of concern because of their venomous sting and concurrent annoyance to humans, livestock, and wildlife. Control of this insect is the subject of controversy by agricultural, ecological and public health interests, yet presents a significant health problem.

The imported fire ant, a native of South America, entered the United States via Mobile, Alabama in 1918, and today infests more than 126 million acres in nine southern states. First found in South Carolina in 1952, in Charleston and Orangeburg counties, the species has spread to an estimated 6,765,000 acres in twenty-seven counties, almost one third of the state. More than two million acres have been newly infested in the last three years.

Although the seriousness of the fire ant sting and allergic reactions to it have been demonstrated,<sup>1</sup> no estimate of the magnitude of the health problem has been made. The purpose of this study, conducted in the fall of 1972, was to estimate the prevalence of fire ant stings in South Carolina by querying practicing physicians. An added benefit might be the possible location of insect manifestations not previously recorded.

#### METHODS

Letters sent to 1726 physician members of the South Carolina State Medical Association in all 46 counties, which represents 81 per cent of the 2132 physicians actively engaged in professional practice in 1971,<sup>2</sup> contained a postal card questionnaire for convenience of reply and solicited the following information:

1. Number of patients treated for fire ant stings in 1970, 1971, and 1972.
2. Cases requiring additional treatment for allergic and anaphylactic reactions, infection, or surgical attention.
3. Additional remarks if desired.

#### RESULTS AND DISCUSSION

Of the physicians queried, 1020 respondents reported 1088 cases for the 1970 through 1972 period which included 69

This work supported by Environmental Protection Agency Contract Number 68-02-0577 and Clemson University: Plant Pest Regulatory Service.

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\*\*\*Plant Pest Regulatory Service, Clemson University, Clemson, South Carolina

**TABLE 1**  
Infested acreage and fire ant sting cases treated by county — 1970-1972.

County	Acres Infested	Number of Cases			
		1970	1971	1972	Total
Aiken	225,000	1	2	0	3
Allendale	110,000	0	0	1	1
Anderson*	—	1	0	0	1
Bamberg	250,000	10	25	25	60
Beaufort	300,000	0	1	1	2
Berkeley	704,000	4	0	0	4
Calhoun	241,000	1	0	1	2
Charleston	604,000	86	149	159	394
Clarendon	200,000	0	1	0	1
Darlington	10,000	1	1	0	2
Dorchester	364,000	1	0	4	5
Florence	150,000	2	3	0	5
Horry	735,000	23	45	60	128
Lancaster*	—	0	0	1	1
Lexington	160,000	2	14	20	36
Marion	1,000	0	1	1	2
Newberry*	—	0	1	1	2
Orangeburg	700,000	46	47	59	152
Richland	370,000	51	86	138	275
Sumter	125,000	2	3	1	6
Williamsburg	75,000	2	2	2	6
State	5,324,000	233	381	474	1,088

\*These counties have no reported infestation

Correlation Coefficient <sup>®</sup> of Acres vs Cases = 0.552

Significant at 0.05 Level (N=18)

cases of anaphylactic shock, 330 lesser allergic reactions, and 145 resulting infections.

Table 1 lists the acreage infested and reported fire ant cases by county by year. One can see that there was a significant increase in number of treated cases during each of the years studied. The same observation is manifest in most of the counties reporting cases. Interestingly, 25 physicians reported treating either themselves or their immediate families. It was also noted that the numerous pathologists responding to the survey indicated no autopsy evidence of fire ant stings in comments added to their completed questionnaires. Physicians reporting larger numbers of reactions, especially shock, were contacted to substantiate their reports.

It is also apparent from Table 1 that counties with high infestations reported the greatest number of cases. There is a

significant correlation ( $R = .552\%$   $n < .05$ ) between area infested and the number of stings reported to physicians. If one calculates the coefficient of determination,  $R^2 = 30\%$ , an unusually high casualty factor is shown, suggesting that any further spread or increase in area of infestation might result in substantially higher numbers of stings and serious sequelae.

The distribution of cases by county is shown in Figure 1. Although some cases treated by a physician may have come from outside his county of practice, it is thought the data are representative of a geographical area.

Numerous cases of fire ant stings have doubtless been seen in emergency rooms and hospital outpatient clinics throughout the state. No attempt could be made in this survey to accurately sample the numbers of patients treated for stings in these primary health care centers except when



## FIRE ANT

responding physicians practiced in these locations. Military service hospitals were likewise not included. In view of these unrepresented treatment centers, and non-response from many of the State's physicians, the 1088 cases become a most conservative estimate.

Most people stung by fire ants do not seek medical attention and, in general, only those most severely affected seek physician care. The 1088 cases suggest a significant segment of the population may be threatened by the imported fire ant in South Carolina.

### SUMMARY

Of the 1020 South Carolina physicians responding to a questionnaire survey, 135 reported treating a total of 1088 cases of fire ant stings from 1970 through 1972.

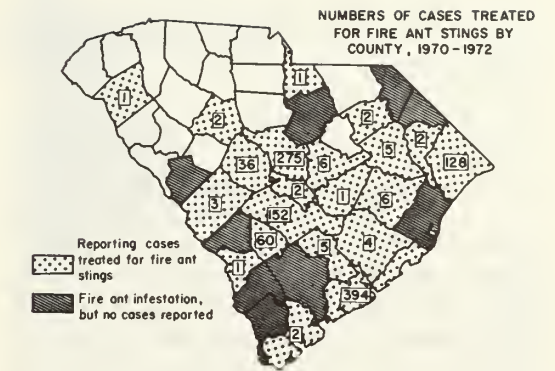


Figure 1. Numbers of cases treated for fire ant stings by county, 1970-1972.

Significant numbers of reactions to stings were reported and constitute an area of increasing concern to practitioners.

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South Carolina Health Data Profile, September 1971 Edition, compiled by South Carolina Regional Medical Program.

## THE PHYSICIAN AND FIRE ANTS

LAURIE L. BROWN, M. D.\*

Man is often fascinated by other creatures which inhabit the environment in which he lives. The world of insects, their habits, their life-styles, and the undeniably essential role which they play in the balance of nature offers a particular fascination—and for some, a hazardous or even deadly one.

The author's interest in the imported fire ant was aroused in the 1960's when this insect began making news in South Carolina, having first appeared in our State in Charleston and Orangeburg counties in 1952. It was found interesting to see how rapidly a mound could appear and reach a significant size once a colony of ants began working. (A typical mound is shown in Figure I.) Soon it became evident that the sting of this insect, *Solenopsis saevissima* (var *richteri* Forel)\*\* could be as vicious as the sound of its name, for not long thereafter, newspaper accounts of severe allergic reactions in some people began appearing. A few unfortunate members of the medical profession were able to give first-hand accounts when they were stung and suffered painful or allergic responses. Although there are as yet no authenticated deaths reported in South Carolina from the sting of this insect, deaths due to complications have been recorded elsewhere.<sup>1</sup>

The biology of this imported insect has recently been reviewed by the author,<sup>2</sup> and is also found in other publications.<sup>3,4</sup>

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Chief of Anesthesiology, Veterans Administration Hospital

\*\*Recent evidence indicates a newly described species of imported fire ant, *Solenopsis invicta* Buren, to be more prevalent in the southeastern United States than the originally described *Solenopsis richteri* Forel.

The sting of the ant is painful to most persons — “burning like fire” — and to those who have been stung, the fire ant is properly named. (The stinger with a drop of venom being extruded is shown in Figure II.) A wheal appears at the site of the sting almost immediately, and within a few hours a vesicle forms, followed by a sterile pustule. Healing is often slow and a scar or discoloration may remain at the site for many months. The necrotizing toxin injected appears to produce a typical lesion which is unlike that caused by any other insect. Although the pustule is sterile, secondary infection, sometimes severe, often ensues when the lesion is punctured.

### CASE 1.

A five-year-old girl stepped on the mounds of fire ants in her yard and received numerous stings on the foot. Although there was no allergic reaction, the foot rapidly became edematous and remained so to the point of inability to wear a shoe for several days. This happened on three occasions, and the edema appeared to become worse each time. The ruptured pustules easily became infected and were treated with an antibiotic ointment. It has now been five months since the last stings were received and there are several discolored areas at the sites of the stings.

### CASE 2.

The wife of a physician was attacked by fire ants numerous times in May, 1972, and received



Figure 1. Fire Ant Mound.

## PHYSICIAN AND FIRE ANTS



Figure 2-A. Fire Ant Stinger.



Figure 2-B. Fire Ant Stinger with venom being extruded.

many stings on her legs. Itching began about 12 hours later, and each time new stings occurred the previous ones again became irritated. Itching persisted for about ten days. The pustules were slow to heal, and presently there remains red discoloration at the sites of approximately 100 stings.

### CASE 3.

The 25 year-old daughter of a physician who had no known history of previous fire ant stings received one sting on her foot. Within a few minutes hives began appearing and within 30 minutes there was swelling of the face, hives were generalized and breathing become difficult. She was taken to the emergency room where she was treated with Epinephrine, Diphenhydramine (Benadryl) intravenously, and cortisone. The reaction soon began subsiding. A desensitising program was begun. The patient now carries allergy medication and wears an emergency medical information insignia.

### CASE 4.

A seven-year-old white boy with a history of asthma and penicillin allergy was brought to the emergency room having recently been stung by an ant. (It was later determined that he had stepped upon a fire ant mound.) Shortly after the sting he became apprehensive, developed extensive hives, had slightly labored respirations and became drowsy. He was cyanotic and lethargic and had a slow irregular pulse. Blood pressure was 70/0. Epinephrine was given immediately and blood pressure rose although cyanosis was slow to improve. Further treatment consisted of Diphenhydramine hydrochloride (Benadryl), 25 mgm I.M., and 100 mgm of Solu-Cortef I.V. in 5% Hartman's solution. He was admitted to the hospital and within a few hours appeared normal again. Later he was found to be highly allergic to wasp and yellow jacket venom and very slightly allergic to ant venom. At that time there was no test for allergy to fire ants.

### CASE 5.

A 45 year-old white male who had been previously evaluated for "Essential Hypertension" with no cause found received approximately 60 to 75 fire ant stings on his feet and legs. The blood pressure rose immediately following the stings and a severe, incapacitating headache followed. Also local inflammation, myalgia and arthralgia developed. Four days after the ant stings and the severe hypertension, he suffered the rupture of a Berry aneurysm. He expired after the operative removal of old blood and ligation of the aneurysm. It was thought that this chain of events was set into motion by the unprecedented rise in blood pressure occurring immediately following the ant stings.

## SUMMARY

Reactions to the sting of the imported fire ant may vary from only a moderate burning sensation at the site of the sting to that of the highly allergic life-threatening response. Physicians who practice in areas of infestation must add this ant to their list of insects which cause allergic reactions in humans. *All physicians* should be prepared to recognize and treat allergic and anaphylactic response to insect sting or bite because it can occur at anytime in any place. Banov<sup>6</sup> has recently reviewed in this Journal the subject of insect allergic emergencies.

It is recommended that any person who is allergic to the venom of the fire ant be hyposensitized. Although this is known to be not always 100 per cent effective protection in insect allergy, Triplett<sup>6</sup> has



#### PHYSICIAN AND FIRE ANTS

recently reported eight patients who have been re-stung by fire ants with no further reaction. The allergic person should keep in his possession information concerning his allergy, wear a medical emergency identification symbol, keep epinephrine

on his person at all times, and be instructed in self-medication.

The author is indebted to the Department of Medical Illustration at the Veterans Administration Hospital, Charleston, South Carolina, and to Mr. R. Scott Lawrence, B. A., for their invaluable assistance in obtaining these photographs.

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## PRURITUS ANI: A TALE OF THE ITCH

LEON BANOVA, JR., M.D.\*  
Charleston, S. C.

Ever since the days of Ancient Egyptians, each generation has developed supposedly "new" ways to treat this embarrassing, tormenting, tantalizing itch, which still plagues man. Sensibly and logically we need to take another "new" look at the treatment of pruritus ani and to initiate studies for its prevention.

After scoping the historical past and probing the multitudinous remedies used, one finds that the common denominator of all treatments is encouragement of the patient to take better than his ordinary care of his anorectum. If better care reduces anal itching, then diligent, intelligent anal hygiene might prevent pruritus ani.

The diagnosis of pruritus ani is easy. The patient merely says, "I itch!" and then uses one of a variety of expressions to indicate where. Within our pluralistic society there are many euphemisms for the anal region. Everyone has heard of fanny, bottom, tail, behind, tushie, etc. Because children hear these coy evasions during childhood, they also tend to develop prejudices about this area in their adult years. And, these private biases are reflected in societal attitudes which discourage public education of the care of this fundamental region.

Although the diagnosis of pruritus ani is easy, the treatment is not. Most cases will clear up with self treatment. Many cases will improve when the cause is found and treated, i.e., local anorectal lesions, paraisitis infestations, mycotic skin disease, etc. But, there abounds a considerable

number of patients whose anal itch defies remedy after remedy. These are the tormented souls I have in mind as I write this paper.

### SCOPING THE PAST

For thousands of years man has been treating his itching anal region. Dating back to about 1250 B.C., the Chester Beatty Medical Papyrus, the earliest known treatise completely devoted to anorectal diseases, cited no less than 10 remedies for treating pruritus ani.<sup>1</sup> For treating itching and burning at the anal region, this papyrus recommended such items as myrrh, milk, human milk, sweet fat, carob, fresh dates, grapes, figs, and wheat. Some of these ingredients were employed in dressings and applied to the irritated area.

John of Arderne (1307-1370) prescribed treatment of "severe and intolerable pruritus ani" with an ointment made from equal parts of juice of celandine, tapsibarbastus, and strained honey to be made into a fine ointment.<sup>2</sup>

In 1837 George Bushe, author of the first American book on proctology published in the United States, found yellow wash, lead water and laudanum, tobacco water, vinegar, tar, and citrine useful in treating itching of the anal region.<sup>3</sup> He also wrote about the comfort and benefits derived from two or three warm baths each week.

A century ago William Allingham of London's St. Mark's Hospital wrote that pruritus ani, the "painful itching of the anus, is a most distressing malady."<sup>4</sup> He often "heard a patient say that his or her life was rendered almost unendurable by

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it." He instructed his patients to wash the anus and surrounding area with warm water and yellow soap every night before retiring for bed. Allingham employed among other items a solution of nitrate of silver, chloroform pomade, bicarbonate of soda, and sulphur ointment.

Joseph Mathews, founder of the American Proctologic Society, advocated bathing in hot water before retiring.<sup>5</sup> He used many medicines such as campho-phenique, balsam peru, zinc oxide, vaseline, camphor, and calomine preparation to treat pruritus ani.

A half century ago Samuel Gant wrote, "Typical cases of pruritus cause great distress, and the condition requires more patience and ingenuity to diagnose and successfully treat than any other affection with which the proctologist has to contend."<sup>6</sup> He prescribed a variety of lotions and ointments. Gant listed a large number of medicinals such as cocaine, silver nitrate, six per cent solution ichthyol, 25 percent solution oil of cade, salicylic acid, bismuth oleate, carbolic acid, etc. Gant urging cleanliness, recommended that the buttocks, perianal radiating folds, and crevices in the skin be "scrupulously cleansed" not less than three times daily.

An editorial appearing in the Journal of the American Medical Association in 1956 began with this sentence: "Although often considered a minor ailment by those not afflicted with it, pruritus ani is at best a source of great annoyance and embarrassment and at worst may become so distracting as to result in suicide."<sup>7</sup> The editorial mentioned numerous remedies of various physicians, such as moistening tissue paper, applying 0.5 per cent menthol and/or 0.5 per cent phenol in a lotion or greaseless cream, and applying one per cent or two per cent hydrocortisone ointment.

Emil Granet in 1961 called attention to the direct relationship between fecal soiling of the perianal skin and pruritus ani. He wrote: "An obvious factor constantly present in all patients and mentioned only

casually in the literature is that of contamination of the anal canal and perianal skin by feces following defecation. This is one factor which is always present despite medical, physical or surgical treatment of pruritus ani."<sup>8</sup> Granet emphasizing the importance of anal hygiene, also mentioned "Treatment is primarily directed toward keeping the perianal skin free of feces."<sup>9</sup>

This historical synopsis indicates that the many varied treatments of pruritus ani had this common denominator: encouraging the patient to take better care of his anorectum.

Since many have written about the role of water and other agents to dilute or remove fecal irritating material on the anal skin in the treatment of pruritus ani, it is logical to emphasize the role of water or cleansing solutions for its prevention.

#### MANAGEMENT APPROACH

Satisfactory treatment depends upon the patient's co-operative attitude and response, i.e., successful compliance with instructions. If the patient faithfully follows out the instructions, his chances of a cure increase.

I always impress upon the patient that anal itching tends to be chronic and recurrent, so that once he has enjoyed initial relief, he will not think his condition has been cured permanently. I recall an early case of mine, that of an old man, who, as a boy, was treated for pruritus ani by Dr. Simon Baruch. His anal itching, however, continued to plague him for many years; and eventually led to congestive heart failure. Not all cases are chronic, but since it is not clear whether the itching of any particular case will recur, it is advantageous for the doctor to emphasize that the itching may return. Thus, the doctor could exert some leverage in encouraging the patient to develop and maintain good anal hygiene habits, thereby forestalling a possible relapse.

The treatment should not only make the patient well, but also keep him well. The patient has to take an active role in main-



taining good health. Many individuals, after they are relieved of their itching, become lax in their anal hygiene care — and the itching recurs. Granet, for one, stressed that fact.

As a physician I cannot change a patient's body, but I can change any outmoded ideas he may have about his body.

For example, the patient must try to break the scratching habit. This important objective is easier said than done. Scratching traumatizes the skin, perpetuating itching.

In soliciting his understanding and cooperation, I inform the patient that normal skin is not apt to itch, but that skin which has been damaged by irritants or scratching often will itch. And, to obtain his earnest commitment to treatment, I use the easily understood analogy of sunburned skin, reminding that it may take months for the redness to fade and normal skin color to return. Then I urge the patient to continue treatment even after the itching has ceased for many months, until the skin has completely returned to normal. I draw his attention to the bronze or red color of the epithelium that is often exhibited at the initial examination and tell him that I hope the skin will eventually return to its normal appearance.

Bearing these thoughts in mind, patients have tended to carry out my instructions more faithfully.

#### SPECIFIC INSTRUCTIONS

For moderate or severe cases, here are some instructions that my patients have found helpful.

My patients are told to avoid toilet paper. Instead they use cotton and water, first warm, then cold water. I also stress the importance of blotting with the cotton rather than rubbing. When patients must use toilet paper, they are told to fold, wet, and blot with it.

For the individual who has itching after bowel movements or from seepage late in the afternoon or who has an irritable colon, I suggest that following defecation the anorectum be irrigated by using water

in a three to six ounce bulb syringe. He is instructed to use warm water first, inside and outside, then cold water inside and outside. This promotes good anal hygiene. (Irrigation with water is not a new idea.) Some patients have jokingly referred to this as a rectal gargle.

I prescribe Lida-Mantle-HC (Dome), which combines hydrocortisone and xylocaine in a satisfying base, to be applied 3 times a day with the finger. And, I emphasize the importance of consistent uninterrupted use.

For those who have difficulty sleeping, I prescribe Quaalude 300 or Parest 400. I avoid barbiturates because of the danger that the patient may become addicted.

#### DISCUSSION

Evaluation of treatment of pruritus ani has been difficult because there are no objective parameters for gauging results of therapy. The doctor is forced to rely upon the patient's subjective response. I have often wished that someone would invent an "itchometer" to measure the patient's itch accurately! In lieu of such a mechanism, I ask the patient to act as an "itchometer" and to tell me, using a scale of zero to ten, the degree of his itching.

Many questions about pruritus ani remain unanswered. Why do some people have an anal itching problem and others do not? What specific enzymes, bacteria, acids or other fecal material are responsible for causing anal itch? Can pruritus ani be prevented? I think it can.

Reference has been made herein to anal hygiene. What is the best way to promote anal hygiene? What is an adequate method for routinely cleaning the anal region? The answers may depend upon the individual patient.

It is interesting that the public has demanded better health care and that physicians have responded by promoting hygiene. In recent years, oral and feminine hygiene have been stressed. Due to our changing times, perhaps soon, anal hygiene will be openly written about and discussed without fear or embarrassment.

## PRURITUS ANI

Obviously the public ought to be educated about anorectal diseases and anal hygiene.

### CONCLUSION

Since normal skin does not usually itch, the aim of treatment must be aimed at promoting normalcy. Often this can be achieved by removing or reducing the irritating component of feces — whatever it might be for each patient. Most cases have been helped by this regimen; many have been cured. Itching for some has been reduced to a more tolerable level; a few, unfortunately, have not been helped as much as I had hoped.

To try to prevent recurrence of the itch-

ing, I urge the continued observance of good anal hygiene even after the itching has initially ceased. Then the patient must decide whether to risk a recurrence of the embarrassing, tormenting itch by improper anal care.

This generation of man has inherited an ancient malady, which still defies a dependable cure. Until diseases of the anorectum can be frankly discussed without embarrassment or ridicule, man will find it difficult to come to grips with the perplexing and elusive puzzle of pruritus ani and will continue merely to scratch the surface.

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## SOUTH CAROLINA MATERNAL MORTALITY

### REVIEW FOR 1970

JOHN G. EICHELBERGER, M.D. AND  
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The purpose of this review of the maternal deaths in 1970 is to provide the physicians information which will aid in reduction of maternal deaths and ultimately improve the practice of obstetrics in our state. In 1970 there were 52,283 live births reported in South Carolina and 27 maternal deaths. A maternal death is a death from any cause of a woman during pregnancy or within 90 days of termination of pregnancy irrespective of the duration of pregnancy at the time of termination or the method by which it is terminated.

Each year since 1948 the South Carolina Medical Association has appointed a Maternal Health Committee to review and evaluate maternal deaths in South Carolina. The Committee is composed of physicians of various specialties such as pediatrics, general practice, anesthesiology, obstetrics and gynecology and pathology. All maternal deaths reported to the Bureau of Vital Statistics of the State Health Department are reviewed by this committee. The involved physician is asked to submit a summary of the case to the Maternal Health Committee. All important information such as hospital discharge summaries and autopsy reports are also obtained. The physician is asked to attend the committee meetings when his case is reviewed. The attendance of the involved physician over the past year has been very poor. I hope this will improve in the future for this is the only way the involved physician can profit from the Committee's efforts. It is not the purpose of

the Committee to censor or reprimand the involved physician. When indicated, especially in a preventable death, the Committee will make recommendation to the physician and suggest ways of improving obstetrical care in preventing maternal deaths in the future. It must be remembered that the Committee's main purpose is to upgrade maternal care in our state.

Maternal mortality figures in a given state are important reflections of the overall health care received by women during their pregnancy in that particular state. Analysis of maternal mortality figures and investigation of maternal deaths often show us ways to prevent maternal deaths and improve obstetrical care. The following factors have been found to be very important in decreasing maternal deaths in the practice of modern obstetrics:

- 1) Hospital care in the place of home delivery.
  - 2) Better trained physicians and nurses.
  - 3) Availability of more and better consultations.
  - 4) Better prenatal care.
  - 5) Availability of blood.
  - 6) Better obstetrical anesthesia.
  - 7) Safer obstetrical surgery.
  - 8) Proper use of drugs such as antibiotics.
  - 9) More autopsies of maternal deaths.
  - 10) Education of the public.
  - 11) Family planning.
  - 12) Active Maternal Health Committee.
- Let us keep these factors in mind as



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we review the 27 maternal deaths that occurred in 1970. Table I lists the 1970 maternal deaths according to race and legitimacy.

TABLE I			
Race and Legitimacy			
Race	Number	Married	Single
Black	19	12	7
White	8	8	0
	27	20	7

Table II shows age and parity distribution of maternal deaths.

TABLE II	
Age and Parity	
Age	15-43
Average	26.1
Primi.	12
Secund.	5
Multi.	8
Unknown	2

A primary cause of death was assigned to each case reviewed by the Committee. Table III lists the primary cause of the maternal deaths.

TABLE III	
Primary Cause of Death	
Sepsis	12
Hemorrhage	3
Renal Disease	2
Hepatitis	2
Eclampsia	1
CVA	1
Amniotic Fluid Embolism	1
Anesthesia	1
Asthma	1
Sickle Cell Disease	1
Miscellaneous	2
	27

These deaths may be classified into one of the three groups shown in Table IV. Number I - Direct obstetrical deaths, that is death due to complication of pregnancy or the elective treatment of pregnancy. Number II - Indirect obstetrical deaths, that is death due to disease existing or developing during pregnancy, and that may be aggravated by pregnancy. Number III - Non-related deaths, that is death in which pregnancy was incidental.

TABLE IV	
Classification of Deaths	
I - <i>Direct OB Deaths</i>	
Infection	7
Hemorrhage	2
Eclampsia	1
CVA	1
Anesthesia	1
Amniotic Fluid Embolism	1
Renal Failure 2° Abruption	1
	14
II - <i>Indirect Causes</i>	
Pyelonephritis	2
Hepatitis	2
Sickle Cell Disease	1
Chronic Renal Disease	1
	6
III - <i>Non-Related Causes</i>	
Infection	3
Hemorrhage	1
Asthma	1
Miscellaneous	2
	7

Twelve maternal deaths in 1970 were due to sepsis and infection and they are subdivided in Table V. Sepsis was the leading cause of maternal mortality in 1970 in South Carolina.

TABLE V	
Cause of Death Due to Sepsis	
Sepsis following C-section	4
Septic Abortion	2
Pyelonephritis	2
Ruptured Appendix	1
Ruptured Duodenal Ulcer	1
Puerperal Sepsis	1
Pneumonia	1
	12

There were four deaths from sepsis following C-section. The first case involved a 17-year-old primigravida who underwent C-section for fetal distress and died 47 days postpartum from pelvic peritonitis, abscess formation, and renal failure. The patient also had sickle cell disease. The second case was a 17-year-old primigravida who underwent C-section for cephalo-pelvic disproportion and died 14-days postpartum of gram negative septicemia

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secondary to endometritis and wound infection. The third case was a 26-year-old primigravida who underwent C-section for cephalopelvic disproportion and died 16 days postpartum with gram negative septicemia and renal failure. The fourth case was a 29-year-old patient who had a Caesarean section for abruptio placenta and developed septicemia postop from endometritis and pelvic abscess and died 48 days postpartum.

There were two deaths secondary to septic abortion. The first case was a 31-year-old gravida ii who died secondary to septic abortion with septic pelvic thrombophlebitis and pulmonary emboli despite vigorous surgical therapy. The second case was a 33-year-old primigravida who died of multiple pulmonary emboli and septic shock secondary to septic abortion.

There were two deaths secondary to pyelonephritis. The first patient was a 24-year-old gravida ii who died antepartum due to massive intravascular coagulation and gram negative sepsis secondary to pyelonephritis which was confirmed by autopsy. The second case was an 18-year-old primigravida who died one day postpartum from septic shock secondary to pyelonephritis.

There was one death secondary to sepsis in a 17-year-old primigravida who died at home two days postpartum and autopsy showed ruptured appendix with peritonitis. Another death secondary to sepsis was a 36-year-old gravida viii diabetic who died of perperal sepsis with secondary brain and lung abscesses shown at autopsy. The patient delivered a 10 lb. stillborn in the emergency room and was discharged home, but admitted one week later and died 20 days postpartum. The final case secondary to sepsis was a 28-year-old gravida ii who died antepartum of bronchial pneumonia.

Three maternal deaths in 1970 were due to hemorrhage and are subdivided in Table VI.

TABLE VI

Cause of Death Due to Hemorrhage	
Ruptured Uterus	1
Ruptured Splenic Artery Aneurysm	1
Abruptio Placenta	1

Case I is a 40-year-old gravida vii who underwent pitocin induction for pre-eclampsia and died shortly after delivery probably secondary to ruptured uterus. The second case is a 25-year-old gravida ii who underwent Caesarean section for suspected uterine rupture but a ruptured aneurysm of the splenic artery was found and the patient died shortly after surgery. The final case secondary to hemorrhage was a 38-year-old patient who underwent Caesarean section for abruptio placenta and died secondary to shock shortly after her surgical procedure.

Table VII shows the incidence of toxemia in maternal death review in 1970. There was only one death secondary to toxemia of pregnancy. The patient was a 39-year-old gravida ix who had a long history of uncontrolled blood pressure and died the day of delivery at home secondary to eclampsia.

TABLE VII

Toxemia of Pregnancy	
Eclampsia	1
Pre-Eclampsia	2
HVD	3
No Toxemia	21

There were two maternal deaths in 1970 secondary to renal disease. The first was a 43-year-old multigravida who died four days after a spontaneous abortion at 4-5 months and cause of death was thought to be secondary to chronic renal disease with uremia and hypertensive encephalopathy. The second case was of a maternal death secondary to renal disease was a 23-year-old primigravida who died 15 days postpartum due to acute renal failure secondary to abruptio placenta and severe hypertensive cardiovascular disease.

Two maternal deaths in 1970 were secondary to hepatitis. The first case was a

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19-year-old primigravida who died antepartum at seven months and an autopsy showed hepatitis. The second case was an 18-year-old primigravida who died 23 days postpartum in hepatic coma secondary to hepatitis.

One maternal death in 1970 was secondary to a cerebral vascular accident. The patient was a 36-year-old gravida xi who died nine days postpartum after the onset of seizures three days postpartum and death was thought to be secondary to cerebral vein thrombosis and broncopneumonia.

One maternal death in 1970 was thought to be secondary to amniotic fluid embolus. This patient was a 29-year-old gravida ii who died shortly after delivery with severe obstetrical shock and hypofibrinogenemia and autopsy revealed an amniotic fluid embolus.

One maternal death in 1970 was thought to be secondary to anesthesia. This patient was a 15-year-old primigravida who had severe hypotension with resultant cardiac arrest following saddle block anesthesia. Autopsy was unremarkable.

One maternal death in 1970 was attributable to asthma. This patient was a 17-year-old primigravida who died 41 days postpartum and had a long history of asthma with an attack of staticus asthmaticus at the time of death. Autopsy revealed asthma with pneumonitis.

One maternal death in 1970 was thought to be secondary to sickle cell disease. This patient was a 24-year-old gravida iii who died 24 days postpartum and an autopsy revealed evidence of sickle cell crises and endometritis.

One maternal death in 1970 was a 23-year-old primigravida who died antepartum of a gunshot wound to the head.

Table VIII depicts the prenatal care received by the maternal deaths reviewed in 1970.

TABLE VIII

## Prenatal Care

None	3
Inadequate	4
Adequate	19
Unknown	1
	<u>27</u>

Table IX depicts the outcome of each pregnancy that was a maternal death in 1970.

TABLE IX

## Outcome of Pregnancy

Abortions	3
No. Delivery	4
Delivery	
Livebirths	12
Stillbirths	8
	<u>27</u>

Table X depicts the time of death relative to labor in maternal deaths in 1970.

TABLE X

## Time of Death Relative to Labor

Antepartum	5
Intrapartum	4
Postpartum	15
Aborted	3
	<u>27</u>

Table XI shows the personnel attending the deliveries of the maternal deaths in 1970. It is of interest that all of the maternal deaths were attended during delivery by a medical doctor and none by midwives.

TABLE XI

## Attended During Delivery

Medical Doctor	20
Midwife	0
None	0
Not Delivered	4
Abortion	3
	<u>27</u>

Table XII depicts the type of doctor or specialist that was the patient's primary physician.



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TABLE XII

Type of Doctors	
Obstetrician-Gynecologist	12
(nine obtained consultations)	
General Practitioners	15
(Seven obtained consultations)	

Table XIII reviews the type of delivery with each maternal death for 1970. It is of interest that there was one postmortem C-section but the baby was stillborn at the time of C-section.

TABLE XIII

## Type of Delivery

Vaginal	12
C-Section	7
Postmortem C-section	1
Not Delivered	4
Aborted	3
	<u>27</u>

Table XIV reviews the type of surgeon that did the C-section. It is of interest that only 50% of the C-sections were done by obstetricians-gynecologists.

TABLE XIV

## C-Section Surgeons (8)

Obstetrician-Gynecologist	4
General Surgeons	2
General Practice-General Surgeons	2

Table XV reviews the location of the patient at the time of her death. Six maternal deaths in 1970 died at home.

TABLE XV

## Location at Death

Hospital	21
Home	6
	<u>27</u>

Table XIV reviews the maternal deaths for 1970 by counties.

TABLE XIV

## Death by Counties

Charleston	6
Richland	3
Florence	3
Greenville	2
Clarendon	2
Oconee	2
Horry	2
Williamsburg	1

Laurens	1
Georgetown	1
Edgefield	1
Greenwood	1
Dillon	1
Orangeburg	1

It is of note that 15 out of the 27 maternal deaths had autopsies done. Every maternal death should have an autopsy done especially if there is any question about the cause of death. This is very important in helping us increase our knowledge of obstetrics and improving our care to the obstetrical patient.

Each maternal patient death in 1970 was categorized as preventable and non-preventable by the Committee. The term preventable does not necessarily mean neglect on the part of the attending physician although this may be present, but the term preventable is also used in a sense that under ideal conditions, adequate facilities, trained assistants, and with consultation available better results would probably be obtained. In 1970 the Committee thought eight of the maternal deaths were preventable.

It was obvious to the Committee from the review of the maternal deaths for 1970, that certain deaths in South Carolina are preventable and we as physicians should take steps to prevent these deaths from occurring. Some specific failures in obstetrical management that increase maternal deaths are listed:

- 1) Inadequate medical and surgical treatments of sepsis in pregnancy.
- 2) Lack of proper, aggressive management of obstetrical hemorrhage.
- 3) Improper applications of drugs such as pitocin.
- 4) Inadequate handling of ectopic pregnancy.
- 5) Improper use of anesthesia.
- 6) Inadequate recognition of abruptio placenta.
- 7) Lack of recognition of impending eclampsia and inadequate early treatment.

#### MATERNAL MORTALITY

- 8) Continuation of pregnancy when therapeutic abortion indicated.
- 9) Lack of recognition of non-obstetrical complications of the pregnant patient.
- 10) Lack of educating the patient and lack of patient cooperation.

We as physicians must try to correct these specific failures in obstetrical management and so decrease our rate of maternal deaths in South Carolina.

South Carolina over the years has greatly improved obstetrical care and so decreased the maternal death rate from 66 in 1955, to 41 maternal deaths in 1965, and on to 27 deaths in 1970. Although South Carolina has greatly improved, its maternal death rate is still twice that of the national average.

We as physicians must be leaders in improving care to the pregnant female in

South Carolina. We should work towards a goal of having prenatal care available to every pregnant patient, strive to have every patient delivered in a hospital, and make sure Family Planning techniques are available postpartum. We should make sure that every physician who does obstetrics should have available not only an adequate hospital including well-staffed and well-equipped delivery and operating rooms but also consultation available from the major specialties, especially obstetrics.

I think you will all agree that these recommendations and goals are vitally needed for the practice of modern obstetrics in South Carolina. I am sure that as physicians, if we can help obtain these things for our State, we will see the day in South Carolina when our maternal death rate has reached an almost irreducible minimal.

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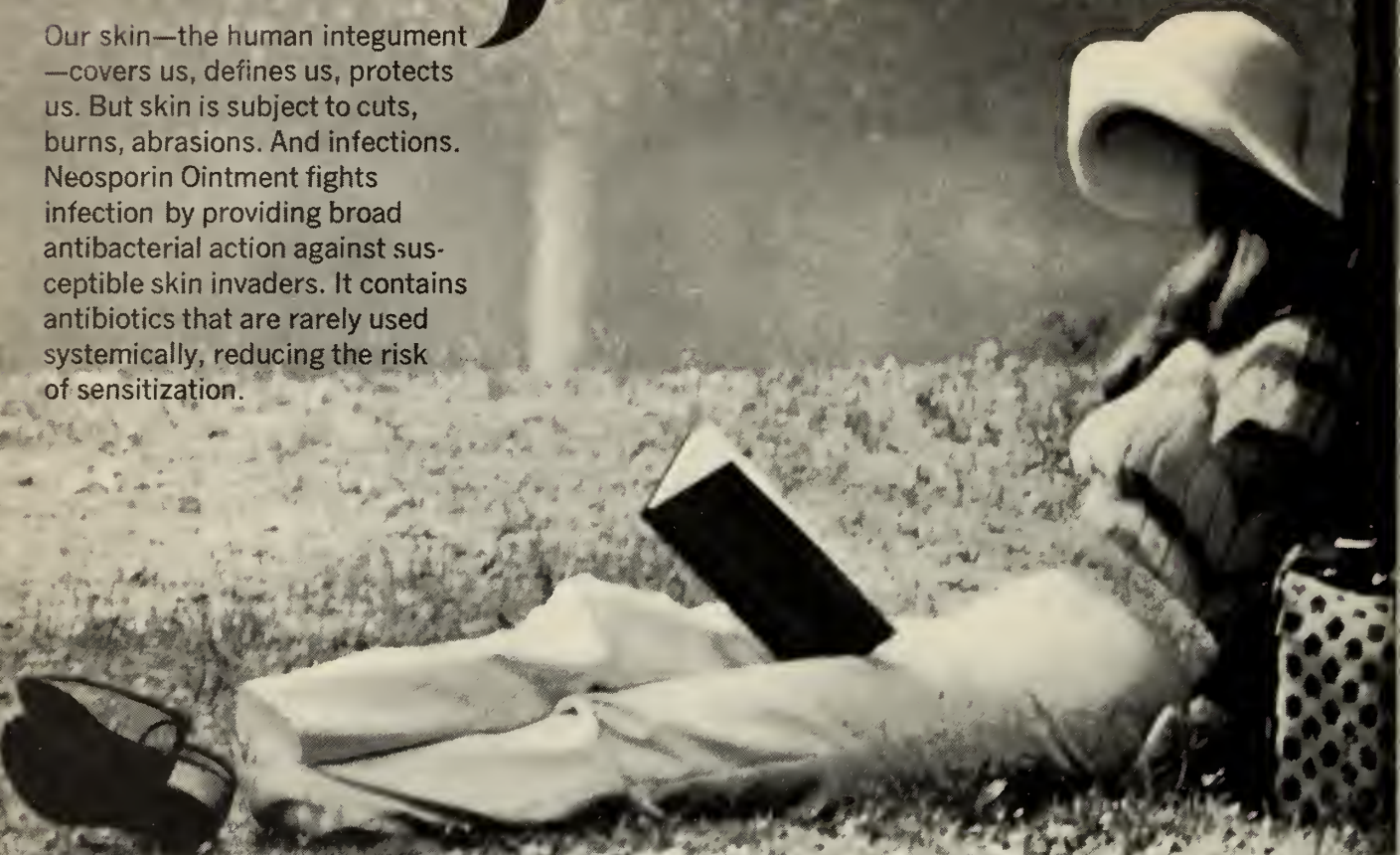
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## CONTRAST RADIOGRAPHY OF ABDOMINAL CYST FROM VENTRICULO-PERITONEAL SHUNT

LCDR ROBERT R. M. GIFFORD, MC, USNR\*  
CAPT MARTIN R. PLAUT, MC, USN\*\*

A case of abdominal cyst formation from ventriculo-peritoneal shunt for hydrocephalus is presented with demonstration of the cyst by contrast radiography. Cyst formation appears to follow prior abdominal procedures or inflammatory processes, and appears to be related to chronic inflammatory reactions. Use of contrast radiography to demonstrate abdominal cyst formation can help avoid added exploratory laparotomy, which in itself may compromise duration of future peritoneal shunt function.

Complications from ventriculo-peritoneal shunting for hydrocephalus are less frequent and less severe than from ventriculo-vascular shunting,<sup>1-11</sup> but nevertheless, often remain formidable challenges to satisfactory treatment. Known abdominal complications include cyst formation,<sup>2,4-6</sup> inflammatory pseudotumor of mesentery,<sup>8</sup> intestinal volvulus and obstruction,<sup>9</sup> and perforation of the bowel.<sup>11</sup> When such complications occur, they limit the repeated use of ventriculo-peritoneal

shunts and may call for ventriculo-vascular alternatives. By the same token, ventriculo-peritoneal shunting provides a measure of therapeutic latitude in cases of repeated failure of ventriculo-vascular systems. Thus, the choice of one system is frequently dictated by failure of another.

Our report concerns various aspects of abdominal cyst formation from ventriculo-peritoneal shunts, and includes the first published demonstration of such a cyst by contrast radiography.

### REPORT OF CASE

A female infant underwent a right ventriculo-peritoneal shunt into the right upper quadrant at two weeks of age for congenital aqueductal stenosis. Due to shunt dysfunction and infection of the right upper abdominal incision at two months of age the system was removed and temporary open ventricular drainage was employed with antibiotic coverage. The ventricular shunt was then placed on the left side with the peritoneal drainage directed into the upper left quadrant.

From the age of five to eight months, there was episodic dysfunction of the peritoneal end. Such malfunction clinically appeared as cephalad seepage of cerebrospinal fluid along the shunt tubing tract in the anterior abdominal wall, associated with erythema of the left upper

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The opinions and assertions contained herein are those of the authors and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

abdominal quadrant incision. The patient apparently tolerated this marginal function for a time but eventually she became lethargic, necessitating another revision. Lateral abdominal roentgenograms demonstrated posterior displacement of bowel gas patterns from the anterior abdominal wall.

At surgery, because of suspension of abdominal cyst formation, approximately 20-30 cc of normal saline was injected down the shunt tubing with evidence of further fluid distension around the tubing tract. On aspiration from the peritoneal shunt tubing, most of the injected fluid was regained with subsequent reduction of the distended subcutaneous tubing tract. This suggested presence of abdominal cyst formation with very little, if any, communication into the free peritoneal space. The peritoneal shunt tubing was again relocated, this time in the right lower quadrant.

For three months there was good shunt function. Then the familiar cephalad seepage of cerebrospinal fluid became evident along the tubing tract, up to the retroauricular incision which had thinned and spontaneously opened. At surgery, after an abdominal cyst without peritoneal communication was again suggested by the same saline injection technique as before, 15 cc of Conray 60 was injected down the peritoneal shunt tubing. This demonstrated a partially filled, well circumscribed abdominal cyst (Figure 1). Revision was accomplished by removing the peritoneal shunt tubing from the cyst and relocating it in the left lower quadrant.

The shunt system worked for five months when a similar picture of peritoneal dysfunction appeared. As the peritoneal shunt tubing was removed from the anterior abdominal tract, a collection of sterile pus was encountered. Other than the swelling along the tubing tract, the patient was not clinically lethargic or septic. Following open ventriculostomy drainage, a right ventriculo-cardiac shunt

was inserted.

In summary, this patient with congenital aqueductal stenosis had ventriculo-peritoneal shunts placed in all four quadrants of her abdomen with clinical dysfunction occurring at two, six, three, and five month intervals. Infection or inflammatory reaction in varying degrees was associated with all four shunts, and abdominal cyst formation was implicated on two and probably three occasions.

#### COMMENT

The development of abdominal cyst from intra-peritoneal shunting of cerebrospinal fluid is an infrequent occurrence but is probably encountered more often than the literature suggests. It is well known that peritoneal shunts often become obstructed by omentum or peritoneal adhesions. When clinical peritoneal shunt malfunction develops, the shunt system is revised, most likely, without investigation of the abdomen by laparotomy.

In previously reported patients the abdominal cyst was seen at laparotomy. Four cases were associated with ventriculo-peritoneal shunts<sup>2,5</sup> and one with a salpingo-theal shunt.<sup>4</sup> Three patients were initially evaluated for intra-abdominal masses discovered on physical examination or on abdominal roentgenogram after the initial shunting procedure had been performed.<sup>2</sup> The abdominal cyst was encountered in the other two cases during revision of the peritoneal shunt catheter.<sup>4,6</sup>

Another feature related to abdominal cyst formation is the history of prior abdominal procedures or shunt infection. Four of the five patients had at least one abdominal shunt operation. The subsequently revised abdominal shunt in these cases did not function longer than three months after cyst evacuation.

Roentgenographically, the abdominal cyst appears as a mass occupying lesion with abdominal contents displaced, or in the case of a shunt placed over the dome of the liver, as enlargement of the liver shadow.



## RADIOGRAPHY OF ABDOMINAL CYST

The pathology of these cysts is that of chronic inflammation.<sup>2</sup> The fibrous wall is filled with chronic inflammatory cells on the inner surface and with fat cells on the outer borders, suggesting connection with retroperitoneal fat or omentum. Within two cystic structures there were multiple loculations of cerebrospinal fluid. The role of chronic inflammation is further implicated by a recently reported case of an unusual inflammatory pseudotumor of the mesentery associated with a ventriculo-peritoneal shunt.<sup>6</sup> The patent tip of the peritoneal catheter was in contact with the surface of this firm, solid mesenteric mass.

In this case, demonstration of the abdominal cyst by contrast radiography is unique to our knowledge. The procedure may be easily done at the operating table, using about one cc of Conray 60 per pound body weight for injection down the peritoneal shunt tubing. This will easily demonstrate whether the peritoneal shunt malfunction is due to cyst formation or obstructed shunt catheter. Also, the patient is spared a laparotomy. It is interesting to note that in those four patients undergoing laparotomy for cyst evacuation, subsequent abdominal shunt function did not exceed three months. In our patient, who did not have laparotomy but merely relocation of the peritoneal shunt catheter through a small abdominal incision, the subsequent shunt function was longer six, three, and five months respectively). Possibly by avoiding the procedure of cyst evacuation, the impetus to repeated chronic inflammatory reaction is mollified.

Additionally, this case re-emphasizes the



Figure 1. Intra-operative roentgenogram shows contrast material within the shunt tube leading into the partially filled right abdominal cyst.

concept that once abdominal cyst formation has occurred, the chances of its recurrence are strong. We expect that there were at least three cyst formations. All followed an inflammatory reaction and/or abdominal cyst formation. Cultures of the repeated inflammatory reactions, including pus, were sterile. The etiology of this repeated inflammatory process, nevertheless, remains purely speculative. Allergic reactions to Silastic material are rare.<sup>6</sup> One may only assume that some patients have greater foreign body reactions to chronically implanted material, and this apparently is potentiated by previous inflammatory reactions.

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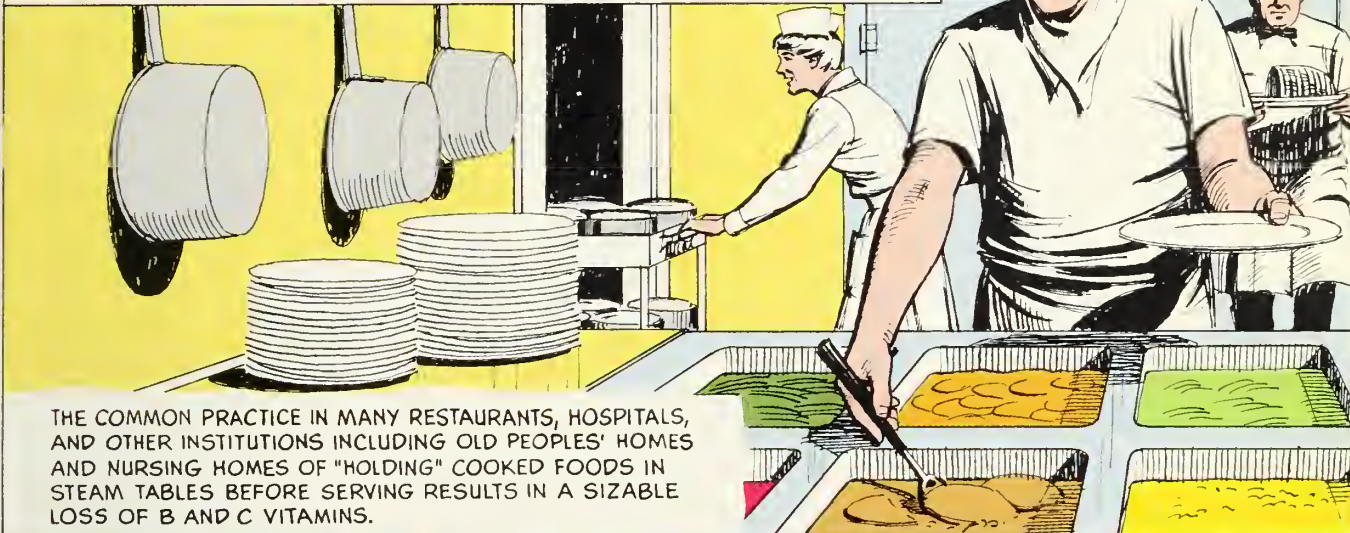
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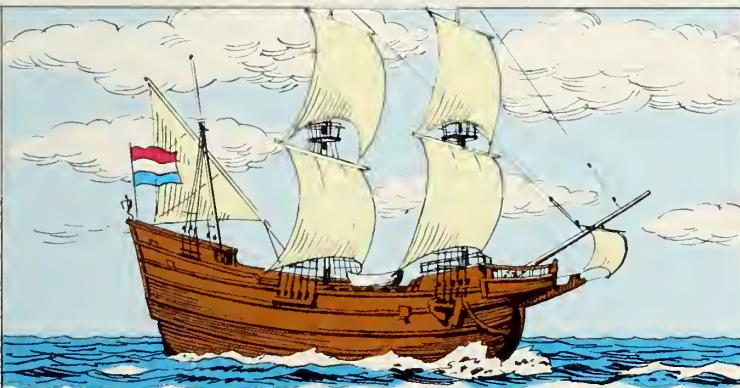
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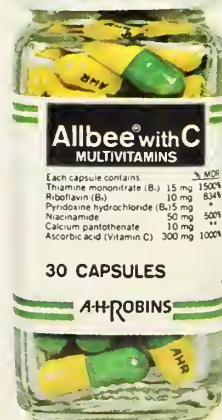
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# X-RAY FILM OF THE MONTH

## THE PLUMP HILUM—AN OVERLOOKED FINDING OF PULMONARY EMBOLISM

CHARLES B. LOWE, M.D.\*

A major problem in the practice of practically any field of medicine is the diagnosis of pulmonary embolism. Pulmonary embolism occurs with much greater frequency than previously suspected.<sup>1,2</sup> Evidences of pulmonary embolism were found in frequencies of 10 per cent to 25 per cent in several large autopsy series.<sup>3,4</sup> Coon et al. found 606 cases of pulmonary emboli in a series of 4,391 autopsies.<sup>5</sup> These data extrapolated to the population of the United States mean approximately 47,000 deaths occur annually in the United States solely from pulmonary embolism.<sup>1</sup> From another large autopsy series, less than 10 percent of cases of pulmonary embolism were diagnosed during life.<sup>4</sup> A more important complication in this dilemma is that whenever a patient has experienced a non-fatal embolism, the reoccurrence of embolism is very likely.<sup>6</sup>

In a study of patients in Southmead Hospital in Bristol, England, between 1947 and 1950, pulmonary embolism was the most common acute pulmonary disease exceeding in prevalence lobar pneumonia, bronchogenic carcinoma, and idiopathic pleurisy with effusion.<sup>2</sup>

Inconsistencies in symptomatology create much confusion about the diagnosis of pulmonary embolism clinically. Israel and Goldstein found respiratory symptoms in about 40 per cent of their cases; confusing

cardiovascular, abdominal and central nervous system findings in the others.<sup>7</sup>

Diagnosis by electrocardiography has proved to be insufficient and leaves much to be desired.<sup>1</sup> The classic enzyme (SGOT, LDH) and bilirubin determinations have fallen into disrepute; as evidenced by recent studies showing no difference between pneumonia and pulmonary embolism or infarction.<sup>8</sup>

Given the above frequencies of pulmonary embolism and the inefficiency of clinical and laboratory diagnostic methodology, this paper will now focus attention on the plain roentgenographic findings available to every clinician, remembering that approximately 20 per cent of pulmonary emboli do NOT cause infarction.<sup>9</sup> Furthermore, a recent study suggests approximately 50 per cent of cases of pulmonary embolism do NOT show TYPICAL roentgenographic findings of infarction.<sup>10</sup>

In a significant number of our cases of pulmonary embolism, on plain postero-anterior chest roentgenograms, we have noted an increased plumpness of the hilum. This is dramatically illustrated in the following case history.

This is a 47 year old white male who complained of worsening abdominal pain of 24 hour duration accompanied by vomiting. He was admitted for an incarcerated inguinal hernia. Herniorrhaphy and appendectomy were performed. The patient was discharged six days later asymptomatic. Approximately one week later the

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## PLUMP HILUM



patient complained of right chest pain which persisted. Three to four days prior to 2nd admission he began coughing up blood-streaked sputum. Figure 1 demonstrates the plain posteroanterior chest roentgenogram at that time.

Comparing the pre-embolic roentgenogram taken 2 weeks earlier (Figure 2), the alert radiologist quickly noted the rounded fullness of contour of the right main pulmonary artery leading to a diagnosis of pulmonary embolism. The paucity of Westermarck's findings are very apparent in Figure 1; the same being true of many of our cases of pulmonary embolism.

The need for better methods of diagnosis, prevention, and treatment of pulmonary embolism are obvious. Notably,

of course, as suggested by Israel and Goldstein, the physicians who are highly suspicious of pulmonary embolism in their patients and use every available means of diagnosis will have a much higher ratio of non-fatal to fatal embolism.<sup>7</sup>

We believe that much information can be gained by careful comparison of the "present" plain posteroanterior chest roentgenogram with past plain posteroanterior chest roentgenograms in each and every case no matter how remote the diagnosis of pulmonary embolism seems. We think this comparison maneuver will significantly reduce the incidence of undiagnosed pulmonary embolism at necropsy, and may reduce the incidence of fatal embolism as suggested by recent studies.<sup>8</sup>

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# Editorials

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scratchez.

This issue of the Journal of the South Carolina Medical Association contains excellent discussions of two possible causes of Ogden Nash's Natchez belle's discomfort. We would have liked to publish Laurie Brown's very worthwhile presentations of the fire ant's prevalence and its bite during the summer, but scheduling did not permit. We are glad to present Dr. Leon Banov's appealing article on pruritis any time.

E.E.K.

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## The Aiken Three

"Every problem has an easy solution—neat, plausible, and wrong." H. L. Menken

Most of us in medicine believe the sterilization rhubarb in Aiken County is a local problem that should be handled locally with as little said about it as possible. Unfortunately, it has not remained local, so I hope a little more discussion of it will not offend anyone. Here goes.

Now, in the South Carolina Medical Association there are few stauncher supporters of individual rights than your editor. I have at times caused some disaffection by overzealous advocacy of individual rights. But, I also firmly hold to the principle that your rights end where my nose begins. I love children and would

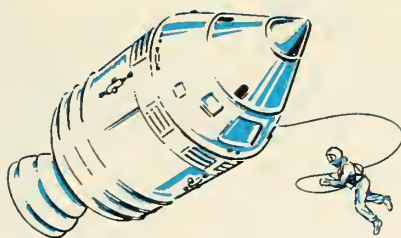
like to have had a dozen or so of my own; however, I realized my wife and I could not financially nor emotionally support more than four, so we stopped there. When I must limit my family for financial reasons but am compelled by my government to support other families of six or eight or ten—then you are getting mighty close to my nose. I am just not willing to pay for somebody else's fifth, sixth, etc. child when for financial practicalities, I must limit my family. I believe the vast majority of South Carolinians share my reluctance to support profligacy, a view our State Department of Social Services seems to ignore in its imprecations.

Now, it seems to me that The Aiken Three have found an easy answer to a serious problem that society must grapple with. The Aiken Three are a bit ahead of their time and must suffer the penalty of this position. They found an easy, neat, and plausible solution, but it was wrong. No individual should be required to make the decision that society must and will make, and has not yet had the courage to do so.

Roger W. McIntire of the University of Maryland has a suggestion that at least merits some thought. He points out that dogs, pilots, scuba divers, plumbers, teachers, soil testers and cab drivers must be licensed. He suggests, for the good of society and to protect children, parenthood should be licensed. McIntire said, "We cannot afford the luxury of any fool adding to our numbers at any time. . . ." to the Eastern Psychological Society. I agree.

E.E.K.





Man in space, now fait accompli, re-emphasizes the importance of Uro-Phosphate therapy. Research into the effect of space travel on the astronaut reveals that weightlessness causes loss of bone calcium. As the bones are required to bear less and less of the weight of the body they lose calcium, increasing the calcium content of the urine. When physical activity is reduced, the acidity of the urine should be adjusted to keep increased calcium in solution . . . a prophylaxis to prevent kidney or bladder calculi.

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All Mudranes are bronchodilator-mucolytic in action, and are indicated for symptomatic relief of bronchial asthma, emphysema, bronchiectasis and chronic bronchitis. **MUDRANE tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **Iodide side-effects:** May cause nausea. Very long use may cause goiter. Discontinue if symptoms of iodism develop. **Iodide contraindications:** Tuberculosis; pregnancy (to protect the fetus against possible depression of thyroid activity). **MUDRANE-2 tablets** contain 195 mg. potassium iodide; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline. **Iodide side-effects and contraindications** are listed above. **MUDRANE GG tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline; 21 mg. phenobarbital (Warning: may be habit-forming); 16 mg. ephedrine HCl. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions** are those for aminophylline-phenobarbital-ephedrine combinations. **MUDRANE GG-2 tablets** contain 100 mg. glyceryl guaiacolate; 130 mg. aminophylline. **Dosage** is one tablet with full glass of water, 3 or 4 times a day. **Precautions:** Those for aminophylline. **MUDRANE GG Elixir.** Each teaspoonful (5 cc) contains 26 mg. glyceryl guaiacolate; 20 mg. theophylline; 5.4 mg. phenobarbital (Warning: may be habit-forming); 4 mg. ephedrine HCl. **Dosage:** Children, 1 cc for each 10 lbs. of body weight; one teaspoonful (5 cc) for a 50 lb. child. Dose may be repeated 3 or 4 times a day. Adult, one tablespoonful, 4 times daily. All doses should be followed with  $\frac{1}{2}$  to full glass of water. **Precautions:** See those listed above for Mudrane GG tablets.

#### **MUDRANE—original formula**

*First choice*

#### **MUDRANE-2**

*When ephedrine is too exciting  
or is contraindicated*

#### **MUDRANE GG**

*During pregnancy or when K.I. is  
contraindicated or not tolerated*

#### **MUDRANE GG-2**

*A counterpart for Mudrane-2*

#### **MUDRANE GG ELIXIR**

*For pediatric use  
or where liquids are preferred*

*Clinical specimens  
available to physicians.*

WILLIAM P. POYTHRESS & COMPANY, INC., RICHMOND, VIRGINIA 23217

*Manufacturers of Ethical Pharmaceuticals*



# **SOUTH CAROLINA MEDICAL ASSOCIATION ANNUAL SESSION**

## **HOUSE OF DELEGATES**

**MYRTLE BEACH, SOUTH CAROLINA**

**MAY 14 & 16, 1973**

The House of Delegates of the South Carolina Medical Association acted on the following items at its Annual Session held in Myrtle Beach, South Carolina, May 14 and 16, 1973:

### **I. REFERENCE COMMITTEE ON LEGISLATIVE ACTIVITIES AND PUBLIC RELATIONS**

1. Resolution 4 concerns discontinuance of certain categorical and special training grants and expresses full approval of the principle of seeking to achieve economy in government. Also asks that SCMA petition the Governor and the Legislature to review current health-oriented programs for which funding may be discontinued before committing revenue-sharing funds to new projects; to seek advice of practicing physicians in regard to such programs assuring suitable representation on all appropriate state policy boards that are allocated revenue-sharing funds for health care by appointment of physicians nominated by SCMA; to provide that this representation reflect appropriate input from the several districts of SCMA and their component county medical societies; and to utilize these representatives fully in the determination of those programs which warrant allocation of revenue-sharing funds for health care.

**RECOMMENDATION:** Mr. Speaker, your Reference Committee recommends that Resolution 4 be adopted.

**HOUSE ACTION:** ADOPTED.

2. Resolution 10 regarding health planning was changed by the Reference Committee as follows:

1. By deleting the second paragraph—lines 3-7, which read as follows:

“Whereas, it is felt that health and medical care planning done solely by so-called health professionals, social planners, and consumers is apt to lead to deficiencies in the plans and particularly when the details of the delivery of medical care are decided by non-medical personnel, of which there are local and national examples; and”

2. By rephrasing the Resolve to read as follows:

“RESOLVED, that the South Carolina Medical Association urge the Governor of South Carolina to avail himself of the advice and counsel of doctors engaged in the practice of private medicine in this State as he plans for improvement in the delivery of health and medical care to the people of South Carolina.”

**RECOMMENDATION:** Mr. Speaker, we urge the adoption of this Resolution as changed.

**HOUSE ACTION:**

ADOPTED, as changed.

3. Resolution 14 concerns fixing penalty for convicted drug pusher. The Reference Committee revised the Resolve to read as follows:

“RESOLVED, that the South Carolina Medical Association in reg-



ular session assembled in Myrtle Beach, South Carolina, this 15th day of May, 1973, urge the sponsoring of a Bill in both the South Carolina Senate and the South Carolina House of Representatives which would urge that stiffer penalties on the convicted hard drug pusher or seller which would, possibly, include mandatory life sentences with no possibility of parole or pleas bargaining."

RECOMMENDATION: Mr. Speaker, we recommend the adoption of this Resolution as revised.

HOUSE ACTION:

ADOPTED, as revised.

4. Resolution 15 endorses the Mediredit Program and recommends that the basic Mediredit concepts be considered in any national health insurance.

RECOMMENDATION:

Recommends adoption of Resolution, Mr. Speaker.

HOUSE ACTION: ADOPTED.

5. (a) Report of Committee on Legislative Activities

REPORT RECEIVED AS INFORMATION AND APPROVED.

- (b) Report of Committee on Historical Medicine

REPORT RECEIVED AS INFORMATION AND APPROVED.

- (c) Report of Committee on Public Relations

REPORT RECEIVED AS INFORMATION AND APPROVED.

6. Resolution 5 concerning establishment of Professional Standards Review Organizations was considered. The Committee could not recommend adoption of this Resolution but would substitute the following Resolution:

"RESOLVED that the Medical Care Foundation continue its study concerning establishing a PSRO but take no action and report back to this House of Delegates in one year the result of their findings."

RECOMMENDATION: The Committee recommends the adoption of this Sub-

stitute Resolution, Mr. Speaker.

HOUSE ACTION: SUBSTITUTE RESOLUTION ADOPTED

## II. REFERENCE COMMITTEE ON PUBLIC AND OCCUPATIONAL HEALTH

1. Report of Committee on Medicine and Religion

REPORT APPROVED

2. Report of Committee on Medical Aspects of Sports was discussed.

RECOMMENDATION: The Committee commends the Committee on Medical Aspects of Sports' efforts to improve sports medicine and urges referral of its recommendation that some papers on athletic injuries be included in the format of the Scientific Program at this meeting each year to the Program Committee.

HOUSE ACTION: RECOMMENDATION OF REFERENCE COMMITTEE ADOPTED

3. Report of Committee on Mental Health

HOUSE ACTION:

REPORT APPROVED

4. Report of the Committee on Industrial Medicine

HOUSE ACTION:

REPORT APPROVED

5. Report of the Committee on Emergency Medical Services

HOUSE ACTION:

REPORT APPROVED

6. Resolution 21 recommended that no clinic for the performance of interruption of pregnancy be established in this State and that interruption of pregnancy be performed only within an accredited hospital.

RECOMMENDATION: Reference Committee recommended that Resolution 21 be received as information.

HOUSE ACTION: The following Substitute Motion was ADOPTED

"THAT the interruption of pregnancy should be performed only within an accepted accredited hospital."

7. Resolution 8 states that the SCMA

favors immediate abandonment of membership of osteopaths in AMA.

RECOMMENDATION: Mr. Speaker, we recommend the adoption of this Resolution.

HOUSE ACTION: RESOLUTION 8 ADOPTED

8. Resolution 1 commended SIECOP for preparing and publishing "Marijuana—A Current Summary" and urged its widespread dissemination.

RECOMMENDATION: We recommend the adoption of this Resolution.

HOUSE ACTION: RESOLUTION 8 ADOPTED

### III. REFERENCE COMMITTEE ON AMENDMENTS TO CONSTITUTION AND BYLAWS

1. Resolution 31 concerned Amendments that were laid on the table in May, 1972, as follows:

(1) Amend Article VI, entitled "Council" by deleting the words: "and the President of the Board of Directors of the South Carolina Medical Care Plan."

(2) Amend Article V, Section 1, by adding at the end of said Section the words: "and (9) the President of the Senior Class of the College of Medicine at the Medical University of South Carolina."

RECOMMENDATION: That these be taken from the table and approved.

HOUSE ACTION: ADOPTED

2. Resolution 20 asked that the membership of Council be enlarged to include the immediate Past President, with vote. This would require an amendment to Article VI of the Constitution.

RECOMMENDATION: Reference Committee recommended that Article VI of the Constitution entitled "Council" be amended by adding after the words, "the President Elect," the words, "the immediate Past President," and that the proposed Amendment be laid on the table until the next Annual Meeting.

HOUSE ACTION: REFERRED BY CHAIR TO REFERENCE COMMIT-

### TEE ON CONSTITUTION AND BYLAWS

3. Resolution 22 concerned Interns and Residents representation in the House of Delegates.

RECOMMENDATION: The Reference Committee endorsed in principle the involvement of interns and residents in all levels of organized medicine but recommended that Resolution 22 be laid on the table to await the pushing of local interest by the county medical societies to the point where demand for representation of these groups is obvious.

HOUSE ACTION: The following SUBSTITUTE MOTION WAS ADOPTED:

"THAT Resolution 22 from Council be adopted and referred to the Committee on Constitution and Bylaws for preparation of suitable amendments to be considered at the Annual Meeting next year."

4. Resolution 23 proposed the charging of a non-specified registration fee for the 1974 Annual Meeting.

RECOMMENDATION: That a registration fee for the 1974 Annual Meeting be postponed indefinitely.

HOUSE ACTION: RESOLUTION 23 DEFEATED AND REGISTRATION FEE WAS POSTPONED INDEFINITELY.

5. Resolution 24 proposed that the Speaker of the House of Delegates have a vote on Council.

RECOMMENDATION: That the example of the AMA is not giving a vote to the Speaker be followed in the SCMA.

HOUSE ACTION: RECOMMENDATION OF REFERENCE COMMITTEE ADOPTED AND RESOLUTION 24 DEFEATED

6. Resolution 26 to raise membership dues by \$45.00 per year was considered.

RECOMMENDATION: That Chapter X, Section 1 of the Bylaws which now reads: "The annual dues for members of this Association shall be \$75.00," be changed to read: "The annual dues for members of this Association shall be \$120.00."

HOUSE ACTION: RESOLUTION 26  
ADOPTED

7. Resolution 29 regarded the establishment by Council of a special study committee on Resolutions to the House of Delegates.

RECOMMENDATION: That Council be empowered to appoint a special study committee on resolutions.

HOUSE ACTION: RESOLUTION 29  
ADOPTED

8. Resolution 11 asked that the House of Delegates approve all memorials, resolutions and actions of Council of a new or important nature issued in the name of the Association before the same should become effective, resorting to a special meeting of the House, if necessary.

RECOMMENDATION: Non-adoption of Resolution 11.

HOUSE ACTION: RESOLUTION 11  
NOT ADOPTED.

9. Resolution 18 proposed that the Speaker of the House be empowered to appoint the members of the Reference Committees.

RECOMMENDATION: The Reference Committee recommended that this Resolution not be adopted.

HOUSE ACTION: RESOLUTION 18 WAS REFERRED TO COMMITTEE ON CONSTITUTION AND BYLAWS FOR THEIR STUDY AND TO BE BROUGHT UP AGAIN NEXT YEAR.

IV. REFERENCE COMMITTEE ON  
MISCELLANEOUS BUSINESS

1. Resolution 9 invited the Convention to meet in Charleston in 1975.

RECOMMENDATION: The Reference Committee moved to accept the information.

HOUSE ACTION: MOTION WAS AMENDED TO READ: "PROVIDING ADEQUATE HOTEL SPACE CAN BE OBTAINED FOR THE CONVENTION."  
RESOLUTION 9 ADOPTED, AS AMENDED.

2. Resolution 12 asked that plans for the construction of a permanent home be

disbanded and that space be leased for the Executive Offices in Columbia.

RECOMMENDATION: Non-adoption.

HOUSE ACTION: RESOLUTION 12  
NOT ADOPTED

3. Resolution 27 provided for temporary dues increase of \$5.00 per month per member for 3 years for the building program.

RECOMMENDATION: Adoption.

HOUSE ACTION: RESOLUTION 27  
ADOPTED.

4. Report of Mediation Committee

HOUSE ACTION: REPORT ACCEPTED  
AS PUBLISHED

5. Report of Advisory Committee to Crippled Children's Society

RECOMMENDATION: Acceptance of Report and requests that if a meeting is to be held as proposed, it be held sufficiently in advance to be included in current year's report.

HOUSE ACTION: REPORT ACCEPTED  
AND RECOMMENDATION  
ADOPTED

6. Report of Advisory Committee to S. C. Vocational Rehabilitation Department

RECOMMENDATION: Acceptance and commendation of Committee.

HOUSE ACTION: REPORT ACCEPTED  
AND COMMITTEE COMMENDED.

7. Report of the Advisory Committee to Woman's Auxiliary

RECOMMENDATION: Acceptance and commendation of Committee

HOUSE ACTION: REPORT ACCEPTED  
AND COMMITTEE COMMENDED

8. Report of Committee on Cooperative Activities

RECOMMENDATION: Acceptance as submitted.

HOUSE ACTION: REPORT ACCEPTED

9. Report of Permanent Home Committee

RECOMMENDATION: Acceptance of Report and recommends that Council proceed with plans to construct a 3-story Permanent Home.

HOUSE ACTION: AN AMENDMENT  
CALLING FOR CONSTRUCTION  
OF A 1-STORY BUILDING WAS



DEFEATED. RECOMMENDATION  
OF REFERENCE COMMITTEE  
ADOPTED.

10. Editorial by Dr. Donald G. Kilgore for Greenville County Medical Bulletin regarding a new home for the SCMA

RECOMMENDATION: Acceptance as published and commendation of Dr. Kilgore

HOUSE ACTION: ACCEPTED AND DR. KILGORE COMMENDED

11. Report of Peer Review Committee

RECOMMENDATION: Acceptance with the following changes:

- A. Paragraph beginning on Line 20 be changed to read that the Reference Committee moves to instruct Council to proceed with its efforts to obtain and publish the necessary comprehensive specialty areas within 90 days, or appoint a special committee for this project.

- B. Paragraph beginning on Line 22 be changed to read that conferences between responsible representatives of the health insurance industry and representatives of the Association be arranged within 90 days to discuss and define a statewide uniform value fee scale.

HOUSE ACTION: RECOMMENDATION OF REFERENCE COMMITTEE ADOPTED

12. Report from Committee on Medical Aspects of Sports

RECOMMENDATION: Acceptance and moves that Committee continue to function in its present status.

HOUSE ACTION: ADOPTED RECOMMENDATION OF REFERENCE COMMITTEE

V. REFERENCE COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

1. Resolution 7 urged the Trustees and Faculty of the Medical University of South Carolina to consider the establishment of a Department of the History of Medicine.

RECOMMENDATION: Reference Committee recommended the adoption of this

Substitute Motion in lieu of Resolution 7:

"...Whereas, it would be appropriate at this time, to incorporate in its curriculum a course in Medical History;

"Therefore, Be It Resolved that the South Carolina Medical Association urges the trustees and faculty of the Medical University of South Carolina to take the necessary implementing action in regard to the establishment of this course."

HOUSE ACTION: SUBSTITUTE MOTION ADOPTED

2. Resolution 13 dealt with the practice of radiology in hospitals.

RECOMMENDATION: Adoption

HOUSE ACTION: RESOLUTION 13 ADOPTED

3. Resolution 16 supported the Medical University of South Carolina in its plans for further improvement and expansion in the area of Health Education.

RECOMMENDATION: Adoption

HOUSE ACTION: RESOLUTION 16 ADOPTED

4. Resolution 19 opposed the Hospital Franchising Act and stated that the SCMA attempt to rescind this legislation through persuasion or, if necessary, through Court action.

RECOMMENDATION: Non-adoption of Resolution 19 and suggests that under the present system appropriate means be taken to expedite action in pending requests.

HOUSE ACTION: MOTION TO TABLE RECOMMENDATION OF REFERENCE COMMITTEE ADOPTED.

MOTION REQUESTING VOTE IN FAVOR OF THE RESOLUTION AS PRESENTED ADOPTED. RESOLUTION 19 ADOPTED.

5. Resolution 25 concerned the extension of funding of the Regional Medical Program.

RECOMMENDATION: Adoption

HOUSE ACTION: RESOLUTION 25 ADOPTED

## VI. REFERENCE COMMITTEE ON REPORTS OF COUNCIL AND OFFICERS

1. Report of President, Dr. Edward F. Parker

RECOMMENDATION: Accepted as information and commendation to Dr. Parker for his address before the House.

HOUSE ACTION: RECEIVED AS INFORMATION AND DR. PARKER COMMENDED.

2. The following Reports summarized the activities of the respective offices during the past year:

Report of President-Elect,

Dr. Harold P. Hope

Report of Vice-President,

Dr. Kenneth N. Owens

Report of Chairman of Council,

Dr. Waitus O. Tanner

Report of Executive Secretary,

Mr. M. L. Meadors

Report of Chairman of SocPac,

Dr. Donald G. Kilgore, Jr.

Report of the Editor of the Journal,

Dr. Edward E. Kimbrough

Report of the American Medical Association Delegates,

Dr. John C. Hawk, Jr. and Dr. Thomas Parker

RECOMMENDATION: Acceptance as information

HOUSE ACTION: ALL REPORTS ACCEPTED AS INFORMATION

3. Report of Woman's Auxiliary

RECOMMENDATION: ACCEPTED AND WOMAN'S AUXILIARY COMMENDED

HOUSE ACTION: REPORT ACCEPTED AND WOMAN'S AUXILIARY COMMENDED

4. Report of the S. C. Medical Care Foundation

RECOMMENDATION: The Reference Committee urged the Board of Directors to continue their active and vigorous study of this matter and begin to formulate definite guidelines, especially in regard to PSROs, and their Report accepted as information.

HOUSE ACTION: ACCEPTED AS INFORMATION

5. Resolution 17 called for the endorsement of John C. Hawk, Jr., M. D., for membership on the AMA's Council on Constitution and Bylaws.

RECOMMENDATION: Adoption

HOUSE ACTION: RESOLUTION 17 ADOPTED.

6. Report of the Treasurer

RECOMMENDATION: Acceptance as information and recommendation that Treasurer furnish a trial balance and balance sheet at future meetings.

HOUSE ACTION: RECOMMENDATION OF REFERENCE COMMITTEE ADOPTED

## VII. REFERENCE COMMITTEE ON MEDICAL SERVICE AND INSURANCE

1. Resolution 2 requested a uniform or standard insurance form.

RECOMMENDATION: Adoption

HOUSE ACTION: RESOLUTION 2 ADOPTED

2. Resolution 6 asked that the members of the SCMA forewarn their patients of the existence and ramifications of the Health Responsibility Program.

RECOMMENDATION: Adoption

HOUSE ACTION: RESOLUTION 6 ADOPTED

3. Resolution 3 asked that Council appoint a Committee to work with representatives of Blue Cross-Blue Shield to work out a simplified form for physician reports both for medicare and their own insurance.

RECOMMENDATION: The Reference Committee recommended a Substitute Resolution in lieu of Resolution 3 as follows:

"... That the Committee to work on a standard insurance form also be responsible for the establishment of a uniform system of nomenclature and coding."

HOUSE ACTION: SUBSTITUTE MOTION ADOPTED

4. Resolution 28 involved payments to

physicians in the different areas of the State—urban and rural.

RECOMMENDATION: Non-adoption  
HOUSE ACTION: RESOLUTION 28  
WAS NOT ADOPTED  
ELECTIONS

The following physicians were elected to the office specified at the 1973 Annual Meeting in Myrtle Beach:

OFFICERS:

PRESIDENT-ELECT:

Donald G. Kilgore, Jr., M. D.

VICE PRESIDENT:

Michael F. Patton, M. D.

SECRETARY:

D. Strother Pope, M. D.

TREASURER:

J. Howard Stokes, M. D.

DELEGATE TO A. M. A.:

John C. Hawk, Jr., M. D.

ALTERNATE DELEGATE TO A. M. A.:

C. Tucker Weston, M. D.

SPEAKER OF THE HOUSE:

C. Tucker Weston, M. D.

VICE-SPEAKER OF THE HOUSE:

William H. Hunter, M. D.

COUNCILORS:

Second District—

Waitus O. Tanner, M. D.

Fifth District—

Halsted M. Stone, M. D.

Eighth District—

Randolph D. Smoak, Jr., M. D.

MEDIATION COMMITTEE:

Second District—

Guy C. Heyl, Jr., M. D.

Fifth District—

Max A. Culp, M. D.

Eighth District—

Boyce M. Lawton, Jr., M. D.

PEER REVIEW COMMITTEE:

Second District—

Paul T. Hopkins, M. D.

Fifth District—

Richard Y. Wescoat, M. D.

Eighth District—

James H. Gressette, M. D.

BENEVOLENCE FUND COMMITTEE:

Forde A. McIver, M. D.

STATE BOARD OF MEDICAL EXAMINERS:

First Congressional District—

A. Richard Johnston, M. D.

Third Congressional District—

William P. Turner, M. D.

STATE BOARD OF NURSING EXAMINERS:

Foster Marshall, II, M. D.

EXECUTIVE COMMITTEE STATE BOARD OF HEALTH:

D. Strother Pope, M. D.

THE HOUSE CONFIRMED MYRTLE BEACH, SOUTH CAROLINA, AS THE LOCATION OF THE 1976 ANNUAL CONVENTION.

SINE DIE ADJOURNMENT



## 50 YEARS AGO

September, 1923

Edgefield County was reorganized. It was noted that South Carolina ranked seventh among the "malarial" states, with a death rate of 2.6 per 100,000 population. Counties with the higher rates were Hampton and Georgetown. The chiropractic legislative efforts were still being opposed.





**Dr. Fred Shuler Williams**, a native of Springfield, has been named director of orthopedic surgery in Self Memorial Hospital in Greenwood. He received his medical degree at the Medical University of South Carolina and then specialized for three years in orthopedics. **Dr. Thad C. Lee**, a native of Dillon, was named outstanding third year resident in family practice at the Medical University. **Dr. E. Kenneth Aycock** was named to head the newly-formed South Carolina Department of Health and Environmental Control, created by the merger of the State Board of Health and the State Pollution Control Authority.

**Dr. Samuel G. Rankin**, an experienced general practitioner and surgeon, has joined **Dr. T. E. Jenkins** as an associate to his general medical practice in Laurens. Dr. Rankin attended the Louisiana State University School of Medicine, and, after internship and residency, began his practice of medicine in China. **Dr. DeBert W. Connell** has opened an office for the general practice of medicine in Lancaster. He formerly practiced in Lancaster and has returned to reopen his office. **Dr. Angelo J. Villani, Jr.** is

now associated with **Dr. S. L. Collins** in the practice of obstetrics and gynecology in Conway. Dr. Villani is a graduate of the Medical College of Virginia and served his internship and residency in California.

**Dr. Alfred Lee Baker**, a resident of Lancaster for more than seventeen years, is serving six weeks in the Baptist Hospital in Nigeria under the auspice of the Southern Baptist Foreign Mission Board. **Dr. S. L. Collins** of Conway was installed as a Fellow of the American College of Obstetricians and Gynecologists at its annual meeting in May.

Three new physicians have been added to Veterans Administration Hospital in Charleston. **Drs. Makio Ogawa** and **Joseph R. Cantey** were announced as new medical service staff. **Dr. Arnold J. Lande** was announced as chief of thoracic surgery. **Dr. J. Howard Stokes, Sr.** and **Dr. Hunter R. Stokes** have announced the addition of **Dr. J. Howard Stokes, Jr.** to their professional association in Florence. **Dr. Robert G. Mann**, formerly of Toccoa, Georgia, has begun his work in Chester in the practice of family medicine.

## MYELOMA SYMPOSIUM

The Cancer Clinical Investigation Review Committee and the Clinical Investigations Branch of the National Cancer Institute are sponsoring a Symposium on Multiple Myeloma October 22-23, 1973, in Atlanta, Georgia at the Royal Coach Motor Hotel. The object of this symposium is to provide an updating of the present state of the art and science of multiple myeloma, of monoclonal gammopathies in general, and of clinical considerations of

this group of diseases in the broadest sense. Progress has been made at both basic and clinical levels during the past several years, and such progress has significantly improved the ability to diagnose these diseases, to characterize the clinical consequences thereof, and to manage such patients. Clinicians are faced with the responsibility of informing themselves about such advances and applying them in the management of their patients. This

symposium is designed to provide information to clinicians and to provide a forum for investigators in the field to exchange ideas and to develop new approaches for the improvement of the care of such patients.

Plans have been made to publish proceedings of this symposium as promptly as possible. All interested clinicians and basic scientists are invited to attend the meeting. No registration fee is to be charged.

Topics to be discussed include: 1) a review of the present information concerning antigenic characteristics and molecular structure of immunoglobulins, 2) discussion of the function of normal and "abnormal immunoglobulins, 3) an evaluation of the clinical consequences induced by the presence of monoclonal gammopathies, 4) consideration of the non-myeloma monoclonal gammopathies, 5) discussion of the characteristics of multiple myeloma in experimental animals and in man with a consideration of cell kinetics in this disease, 6) management of the dis-

ease with cytotoxic agents, 7) ancillary measures important to the management of patients with myeloma, and 8) a summary of the present state of the art and projections for the future.

The speakers will be clinical investigators and basic scientists who have made outstanding contributions to the development of the present understanding of this group of diseases.

All physicians, house staff and medical students are welcome. For a detailed program and further information, write to:

Mrs. Jeanne Schaub  
MW 408, John Sealy Hospital Building  
University of Texas Medical Branch  
Galveston, Texas 77550

or

Mrs. Jeannette Steinbraker  
Cancer Clinical Investigation Review  
Committee  
National Cancer Institute  
Room 10A03 Westwood Building  
5333 Westbard Avenue  
Bethesda, Maryland 20016

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## DIVISION OF CONTINUING EDUCATION MEDICAL UNIVERSITY OF SOUTH CAROLINA

### Charleston, South Carolina

An outstanding faculty in the field of diabetes will present a one day symposium entitled CLINICAL CONCEPTS IN DIABETES MELLITUS on November 7, 1973, in the Basic Science Auditorium of the Medical University of South Carolina. The clinical application of recent knowledge will be stressed. For those interested, AAFP credits will be awarded. The program will be of particular interest to family physicians, internists, obstetricians and gynecologists and endocrinologists.

Registration fee is \$10.00.

This program is jointly sponsored by the Department of Medicine, Department of Pediatrics and the Division of Continuing Education of the Medical University of South Carolina and The Upjohn Company.

For further information and registration, please contact:

Vince Moseley, M.D., Director  
Division of Continuing Education  
Medical University of South Carolina  
80 Barre Street  
Charleston, South Carolina 29401

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what is needed for complete  
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Free Tab-Minder sample  
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**Indications:** SYNTHROID (sodium levothyroxine) is specific replacement therapy for diminished or absent thyroid function resulting from primary or secondary atrophy of the gland, congenital defect, surgery, excessive radiation, or antithyroid drugs. Indications for SYNTHROID (sodium levothyroxine) **Tablets** include myxedema, hypothyroidism without myxedema, hypothyroidism in pregnancy, pediatric and geriatric hypothyroidism, hypopituitary hypothyroidism, simple (nontoxic) goiter, and reproductive disorders associated with hypothyroidism. SYNTHROID (sodium levothyroxine) **for Injection** is indicated for intravenous use in myxedematous coma and other thyroid dysfunctions where rapid replacement of the hormone is required. The injection is also indicated for intramuscular use in cases where the oral route is suspect or contraindicated due to existing conditions or to absorption defects, and when a rapid onset of effect is not desired.

**Precautions:** As with other thyroid preparations, an overdose of SYNTHROID (sodium levothyroxine) may cause diarrhea or cramps, nervousness, tremors, tachycardia, vomiting and continued weight loss. These effects may begin after four or five days or may not become apparent for one to three weeks. Patients receiving the drug should be observed closely for signs of thyrotoxicosis. If indications of overdose appear, discontinue medication for 2-6 days, then resume at a lower dosage level. In patients with diabetes mellitus, careful observations should be made for changes in insulin or other antidiabetic drug dosage requirements. If hypothyroidism is accompanied by adrenal insufficiency, such as Addison's Disease (chronic adrenocortical insufficiency), Simmonds's Disease (panhypopituitarism), or Cushing's syndrome (hyperadrenalism), these dysfunctions must be corrected prior to and during SYNTHROID (sodium levothyroxine) administration. The drug

should be administered with caution to patients with cardiovascular disease; development of chest pains or other aggravations of cardiovascular disease requires a reduction in dosage.

**Contraindications:** Thyrotoxicosis, acute myocardial infarction. **Side effects:** The effects of SYNTHROID (sodium levothyroxine) therapy are slow in being manifested. Side effects, when they do occur, are secondary to increased rates of body metabolism; sweating, heart palpitations with or without pain, leg cramps, and weight loss. Diarrhea, vomiting, and nervousness have also been observed. Myxedematous patients with heart disease have died from abrupt increases in dosage of thyroid drugs. Careful observation of the patient during the beginning of any thyroid therapy will alert the physician to any untoward effects.





It has been shown that *Synthroid* (T<sub>4</sub>) converts to T<sub>3</sub> at the cellular level to supply metabolic needs.<sup>1, 2</sup>

1 *Synthroid* is T<sub>4</sub>.

2 Because T<sub>4</sub> converts to T<sub>3</sub> at the cellular level, it provides full thyroid replacement at maintenance doses.<sup>1, 2</sup>

3 T<sub>4</sub> hormone content is controlled by chemical assay.

4 *Synthroid* is assayed chemically; no biologic test is necessary to measure potency.

5 *Synthroid* provides predictable results when used with current thyroid function tests.

6 *Synthroid* is the most prescribed brand name of thyroid in the U. S. and Canada.

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(sodium levothyroxine)

In most cases with side effects, a reduction of dosage followed by a more gradual adjustment upward will result in a more accurate indication of the patient's dosage requirements without the appearance of side effects.

**Dosage and Administration:** The activity of a 0.1 mg. SYNTHROID (sodium levothyroxine) TABLET is equivalent to approximately one grain thyroid, U.S.P. Administer SYNTHROID tablets as a single daily dose. In hypothyroidism without myxedema, the usual initial adult dose is 0.1 mg. daily, and may be increased by 0.1 mg. every 30 days until proper metabolic balance is attained. Clinical evaluation should be made monthly and PBI measurements about every 90 days. Final maintenance dosage will usually range from 0.2-0.4 mg. daily. In adult myxedema, starting dose should be 0.025 mg. daily. The

dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

**Supplied:** Tablets: 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded, in bottles of 100, 500, and 1000. Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, U.S.P., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent. SYNTHROID (sodium levothyroxine) for Injection may be administered intravenously utilizing 200-400 mcg. of a solution containing 100 mcg. per ml. If significant improvement is not shown the following day, a repeat injection of 100-200 mcg. may be given.

1. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T<sub>4</sub>) to Triiodothyronine (T<sub>3</sub>) in Athyreotic Human Subjects, J. Clin. Invest. 49:855-64, 1970.

2. Surks, M. I., Schadow, A. R., and Oppenheimer, J. H.: A New Radioimmunoassay for Plasma L-Triiodothyronine: Measurements in Thyroid Disease and in Patients Maintained on Hormonal Replacement. J. Clin. Invest. 51:3104-13, 1972.



**FLINT LABORATORIES**

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# Recommendations<sup>†</sup> on Combination Live Virus Vaccines

---

## American Academy of Pediatrics

### Committee on Infectious Diseases

In the September 15, 1971 *AAP Newsletter* sent to Academy members, the Committee on Infectious Diseases of the American Academy of Pediatrics stated its recommendations on the use of combination live virus vaccines. After a careful review of available data, the committee concluded that:

- "This information indicates that the products are both safe and effective when used as directed."
- The vaccine "...can, therefore, be recommended with the obvious advantages of reduction in the number of injections for any given child and a concomitant decrease in the required visits to a physician's office or clinic."

<sup>†</sup>For complete text of both recommendations see your MSD representative or write to Professional Service Dept., Merck Sharp & Dohme, West Point, Pa. 19486.

## United States Public Health Service

### Advisory Committee on Immunization Practices

In the April 24, 1971 issue of *Morbidity and Mortality Weekly Report*, the Advisory Committee on Immunization Practices of the United States Public Health Service presented recommendations on the use of combination live virus vaccines. The committee stated that:

- "Data indicate that antibody response to each component of these combination vaccines is comparable with antibody response to the individual vaccines given separately."
- "There is no evidence that adverse reactions to the combined products occur more frequently or are more severe than known reactions to the individual vaccines (see pertinent ACIP recommendations)."
- "The obvious convenience of giving already selected antigens in combined form should encourage consideration of using these products when appropriate."



# M-M-R<sup>\*</sup>

## (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE | MSD)

Single-dose vials

M-M-R, given in a single injection, fits easily into your routine immunization program for well babies. Given at age 12 months, M-M-R provides for vaccination early in life against measles, mumps, and rubella.

MSD suggested immunization schedule for well babies	
Age	Vaccine(s)
2 months	DPT (diphtheria-pertussis-tetanus) Oral poliomyelitis vaccine (triple)
3 months	DPT <sup>1</sup>
4 months	DPT Oral poliomyelitis vaccine (triple)
6 months	Oral poliomyelitis vaccine (triple)
12 MONTHS	M-M-R (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE, MSD)

1. This vaccination may be given at 3 months, 5 months, or at 6 months, depending on your preference or on the condition of the child.  
Since vaccination with a live virus vaccine may depress the results of a tuberculin test for four weeks or longer, the test and the vaccine should not be given during the same office visit.

<sup>\*</sup>Trademark of Merck & Co., Inc.

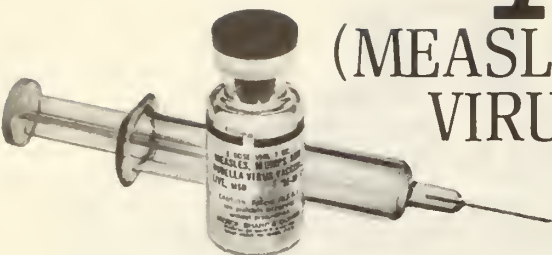
For a brief summary of prescribing information, please see following page.



# M-M-R

## (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE | MSD)

Single-dose vials



No untoward reactions peculiar to the combination vaccine (M-M-R) have been reported.

Moderate fever (101-102.9 F) occurs occasionally. High fever (over 103 F) occurs less commonly. On rare occasions, children who develop fever may exhibit febrile convulsions. Rash (usually minimal and without generalized distribution) may occur infrequently.

Since clinical experience with measles, mumps, and rubella virus vaccines given individually indicates that very rarely encephalitis and other nervous system reactions have occurred, such reactions may also occur with M-M-R. A cause and effect relationship, however,

has not been established.

Excretion of the live attenuated rubella virus from the throat has occurred in the majority of susceptible individuals administered the rubella vaccine. There is no definitive evidence to indicate that such virus is contagious to susceptible persons who are in contact with the vaccinated individuals. Consequently, transmission, while accepted as a theoretical possibility, has not been regarded as a significant risk.

Must not be given to women who are pregnant or who might become pregnant within three months following vaccination.

**Contraindications:** Pregnancy or possibility of pregnancy within three months following vaccination; infants less than one year old; sensitivity to chicken or duck, chicken or duck eggs or feathers, or neomycin; any febrile respiratory illness or other active febrile infection; active untreated tuberculosis; therapy with ACTH, corticosteroids, irradiation, alkylating agents, or antimetabolites; blood dyscrasias, leukemia, lymphomas of any type, or other malignant neoplasms affecting the bone marrow or lymphatic systems; gamma globulin deficiency, i.e., agammaglobulinemia, hypogammaglobulinemia, and dysgammaglobulinemia.

**Precautions:** Administer subcutaneously; do not give intravenously. Epinephrine should be available for immediate use should an anaphylactoid reaction occur. Should not be given less than one month before or after immunization with other live virus vaccines; vaccination should be deferred for at least six weeks following blood transfusions or administration of more than 0.02 cc immune serum globulin (human) per pound of body weight, or human plasma.

Due caution should be employed in children with a history of febrile convulsions, cerebral injury, or any other condition in which stress due to fever should be avoided. The physician should be alert to the temperature elevation which may occur after vaccination.

Excretion of the live attenuated rubella virus from the throat has occurred in the majority of susceptible individuals administered the rubella vaccine. There is no definitive evidence to indicate that such virus is contagious to susceptible persons who are in contact with the vaccinated individuals. Consequently, transmission, while accepted as a theoretical possibility, has not been regarded as a significant risk.

Attenuated live virus measles and mumps vaccines, given separately, may temporarily depress tuberculin skin sensitivity; therefore, if a tuberculin test is to be done, it should be scheduled before vaccination, to avoid the possibility of a false negative response.

Before reconstitution, refrigerate vaccine at 2-8 C (35.6-46.4 F) and protect from light. Use only diluent supplied to reconstitute vaccine. If not used immediately, return reconstituted vaccine to refrigerator at 2-8 C (35.6-46.4 F), and discard after eight hours.

**Adverse Reactions:** Fever, rash; mild local reactions such as erythema, induration, tenderness, regional lymphadenopathy; parotitis; thrombocytopenia and purpura; allergic reactions such as urticaria; arthritis, arthralgia, and polyneuritis.

Occasionally, moderate fever (101-102.9 F); less commonly, high fever (above 103 F); rarely, febrile convulsions.

Encephalitis and other nervous system reactions that have occurred very rarely with the individual vaccines may also occur with the combined vaccine.

Transient arthritis, arthralgia, and polyneuritis are features of natural rubella and vary in frequency and severity with age and sex, being greatest in adult females and least in prepubertal children. Such reactions have been reported with live attenuated rubella virus vaccines. Symptoms relating to joints (pain, swelling, stiffness, etc.) and to peripheral nerves (pain, numbness, tingling, etc.) occurring within approximately two months after immunization should be considered as possibly vaccine related. Symptoms have generally been mild and of no more than three days' duration. The incidence in prepubertal children would appear to be less than 1% for reactions that would interfere with normal activity or necessitate medical attention.

**How Supplied:** Single-dose vials of lyophilized vaccine, containing when reconstituted not less than 1,000 TCID<sub>50</sub> (tissue culture infectious doses) of measles virus vaccine, live, attenuated, 5,000 TCID<sub>50</sub> of mumps virus vaccine, live, and 1,000 TCID<sub>50</sub> of rubella virus vaccine, live, expressed in terms of the assigned titer of the NIH Reference Measles, Mumps, and Rubella Viruses, and approximately 25 mcg neomycin, with a disposable syringe containing diluent and fitted with a 25-gauge, 5/8" needle. Also in boxes of 10 single-dose vials nested in a pop-out tray with a separate box of 10 diluent-containing syringes.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., INC., West Point, Pa. 19486

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# EXTENSION LIBRARY SERVICES FOR SOUTH CAROLINA PHYSICIANS

WARREN A. SAWYER, B.S., M.S.\*

MARTHA E. McPHAIL, A.B., M.S.\*\*

In June of 1971 the Medical University of South Carolina Library was awarded a Medical Library Resource Project Grant (1 G08 LM-01265) to establish and maintain an Extension Division. The function of the Extension Division, in addition to providing information services to practitioners, is to develop the library component of the National Biomedical Communications Network for South Carolina.<sup>1</sup> In conjunction with the Area Health Education Center (AHEC) Program of the Medical University, the Library has been actively involved in the expansion and extension of the member community hospital libraries. According to Edmund D. Pellegrino, M.D., vice president for the health sciences and director of the Health Sciences Center, State University of New York at Stony Brook the intent of AHEC development is to expand the capacity for the education of more and different types of health personnel, and to bring to more communities the benefits of house staff education programs and continuing education programs.<sup>2</sup> The small rural community that contains little or no bibliographical resources has the greatest need for responsible and efficient library services. Community hospital libraries are prohibited for budgetary and other practical reasons from duplicating the collections of university academic health centers which are, by virtue of the educational, clinical, and research programs served, both deep and broad. It is, then, logical that a means of rapid and direct dis-

semination of information from urban medical centers to rural practitioners be established.<sup>3</sup>

To accomplish the specific goals of (1) meeting the bibliographical needs of physicians, (2) supporting continuing education programs and (3) coordinating existing programs of the Southeastern Regional Medical Library Program the Medical University of South Carolina Library's Extension Division offers the following services:

1. Medical ready reference
2. Photocopy of journal articles
3. Loan of books
4. Consultation services for hospital libraries
5. Preparation of subject bibliographies
6. Literature searches for current information
7. MEDLINE (MEDLARS on line) searches

MEDLINE provides the user with a computer print-out of citations from the 1,300 journals in the data base. Users remote from the Medical University have their requests channeled to the National Library of Medicine's computer via the MUSC Library's terminal. Off-line print-outs are mailed directly to the requestor who then checks the desired items and forwards the print-outs to the Extension Librarian who provides him with free photocopy.

A toll-free IN-WATS line (1-800-922-0179) is provided to enable the physician to request bibliographical assistance. The number is equipped with a recording device to receive calls made during evening and weekend hours.

During the period of operation from February 1, 1972 to January 31, 1973, 14,245

\*Director of Libraries  
Medical University of South Carolina  
80 Barre Street  
Charleston, South Carolina 29401

\*\*Extension Librarian  
Medical University of South Carolina

requests were filled for 549 individuals. The Extension Librarian visited twenty-five hospitals to consult with administrators and librarians about improving their library facilities and materials and a workshop on the organization and management of the hospital library was conducted in October of 1972. A grant application was submitted to the National Library of Medicine on behalf of the South Carolina Community Hospital Teaching Program, an association between the College of Medicine of the Medical University of South Carolina and Richland Memorial Hospital, the Greenville General Hospital, and Spartanburg General

Hospital. This application (1 G08 LM-0173) was approved and funded; the member hospitals are now developing strong core collections which provide support to the MUSC Library's Extension Division and serve as satellite Library/Learning Centers.

Future planning calls for the developing and testing of new methods of providing library service; for the developing of a means of disseminating audio-visual and other non-book materials to physicians; for the continued development and promotion of community hospital libraries and learning resource facilities.

#### REFERENCES

1. Davis, R. B.: The national biomedical communications network as a developing structure, *Bull Med Lib Ass* 59:1-20, 1971.
2. Pellegrino, E. D.: Regionalization of academic medicine, *J Med Educ* 48:119-133.
3. Maxson, E. and M. D. Sprinkle: Extending library services by using a new technology, *Bull Med Lib Ass* 60:310-314, 1972.

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## THE SOUTH CAROLINA DEPARTMENT OF MENTAL HEALTH

William S. Hall, M.D.

State Commissioner of Mental Health

Construction is expected to begin sometime this year on the first 304-bed psychiatric treatment village planned by the S. C. Department of Mental Health.

The Village will be situated on a new campus adjacent to Crafts-Farrow State Hospital six miles north of Columbia between Highway 555 and Highway 1.

The Village System is a new mental health concept which emphasizes a strong and intensive therapeutic program in a simulated community environment which will allow the treatment team to focus on individual and group problems and responsibilities.

To test therapeutic concepts of the Village System, a Pilot Project is now under way at the William S. Hall Psychiatric Institute. In the eight months of operation of the Pilot Project, there have been over 100 admissions, and 85 per cent of admitted patients have been discharged directly back to their home community.

The Village System aims at the patient's rapid return to his life's responsibilities. Elements of a small community are duplicated in miniature within the Village complex including recreational therapy areas, education and training areas, assembly areas, several activities courts and facilities for a small restaurant, food store, clothing store, pharmacy, post office, bank, beauty and barber shop, sundries

store, laundry pick-up areas and other necessary outdoor therapeutic areas to promote group and social interaction.

Villages will house and provide intensive short term treatment for 304 patients. Group members (patients) are housed in homelike facilities called lodges that surround the Village center. Each lodge contains three groups of 12 patients and provides therapeutic space for eating, lounging and daily tasks found in a normal homelike environment. The mental health treatment team is housed in a separate space that is connected to the lodge by covered walkways.

Villages will serve specific catchment areas of the various community mental health centers and clinics throughout the state. This relationship will allow a continuity of care for patients and afford an opportunity for therapy between staff, patients and their home communities.

"The Village System is a tremendous stride forward for the people of South Carolina in that mentally ill and emotionally disturbed patients will have the benefit of new concepts of care and treatment in a pleasant residential setting rather than the mass-patient quarters evident in current hospital structures."

The essence of the patients' recovery process in interaction among patients, staff and therapeutic community mem-

bers. The patient is given as much responsibility as he can take on during treatment. Village controls range from a minimum for those patients who have freedom to come and go within the Village and who go home on passes, to a very secure seclusion room in the admissions area for patients requiring more supervision. This gives the staff a chance to test the amount of responsibility a patient can take in any point of his treatment.

Linkage between mental health clinics and centers and the Village System is vital in that it insures greater follow-up care and treatment for released patients. Com-

munity clinics and centers are the first step in mental health care. The Village System serves as the second step and state mental hospitals are the third step in the mental health care delivery system.

Backed by the recommendation of Gov. John C. West, the General Assembly has appropriated \$6,000,000 for a second Village in the State.

Concepts of the Village System have been developed by the Planning Committee of the S. C. Department of Mental Health and Prof. George C. Means, of the Clemson University School of Architecture.

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### LAW SUIT

Three physicians and a nationwide medical association filed suit in federal court today challenging the constitutionality of a new federal law which empowers agents of government to interfere with and overrule the professional judgment of a physician in determining what is "medically necessary" for his patient.

The suit said the law will deprive Social Security beneficiaries who need medical care of the high quality care they have been promised. Some 80 million aged, poor and disabled Americans are eligible for such care. Physicians treating those patients will be required to conform to preset "norms of care, diagnosis and treatment," even though such "norms" conflict with the unique needs of individual patients. Development and prescription of the "norms" will be under HEW regulation.

The law empowering this interference was buried last year in an Act increasing Social Security "benefits" and taxes. It is known as "The Social Security Amend-

ments of 1972" which provides for establishing "Professional Standards Review Organizations." In addition to asking the court to declare the PSRO part of the law unconstitutional and to enjoin the Secretary of HEW, named as defendant, from enforcing it against patients and their doctors, the complaint said the law will:

—Destroy the confidential relationship between doctor and patient. It authorizes government agents to examine office and hospital records of all patients of all physicians who treat any Medicare, Medicaid or disabled patients whose care "may be paid, in whole or in part, by Social Security."

—Allow government agents to compile dossiers from the medical records of U.S. citizens and to use the information in any manner the Secretary of HEW chooses in administering the law.

—Undermine the trust and rapport between physicians and their patients that are essential to high quality medical care.

## FEDERAL HEALTH POLICY—1973— RMP FUTURE?

After the signing of S 1136 (P. L. 93-45), "The Health Programs Extension Act of 1973," President Richard M. Nixon issued a statement of June 19, 1973 in which he agreed to the desirability of extending several of the dozen health programs included in the Bill for periods beyond June 30, 1974, but he was again insistent in his belief that hospital construction subsidies (Hill-Burton), *long-term mental health center grants, regional medical programs and subsidies to allied and public health training should not be continued beyond June 30, 1974.*

On July 10-11, 1973, a "Seminar on Health" was conducted at the White House for health and science writers.

Government spokesmen included The Hon. Caspar W. Weinberger, Secretary of DHEW; Hon. Melvin R. Laird, Counsel to the President; Dr. Charles C. Edwards, Assistant Secretary for Health, DHEW; Hon. John D. Twinn, Executive Director, Health, Cost Living Council; Dr. Marie Callender, Special Assistant for Nursing Home Affairs, DHEW; Dr. Richard S. Wilbur, Deputy Assistant Secretary, Department of Defense; Dr. Henry E. Simmons, Deputy Assistant Secretary, Health, DHEW; Dr. Robert S. Stone, Director, NIH; Dr. Frank J. Rauscher, Jr., Director, National Cancer Program, National Cancer Institute, NIH; Dr. Joseph Kerwin of the Sky Lab Mission, NASA; Dr. Mark J. Musser, Medical Director of VA, and The Hon. Herman Pollock, Director of International Scientific Affairs, US State Department.

The main issues covered in the seminar, and which constitute in essence statements defining Federal Health Policy for 1973, relate to reducing costs, the Administration's posture on National Health Insurance, what is planned in respect to HMO's, policy in respect to PSRO's, the Administration's position in respect to re-

search grants and fellowships and the continuing and developing position of the Administration in respect to Regional Medical Programs, Hill-Burton Programs, and long-term mental health center support.

The stated purpose of the seminar was to give "health writers" insights of the long-range goals, current thoughts about and the philosophy of the Administration in respect to health care in a general sense.

Incidental to the meeting, but of secondary importance, were announcements of new nursing home standards for Medicare and Medicaid patients, the funding of seven cancer treatment centers, and a national blood policy statement stressing the use of volunteer donors and improved collection and distribution systems.

It was stressed by Secretary Weinberger and The Hon. Melvin Laird, Domestic Counselor to the President, that for the Administration a prime consideration was cost, and that program restrictions and discontinuations were related to cost containment decisions. There was also a firm prediction that if Congress passes at the present level the HEW programs' appropriations as are now being proposed for the new fiscal year, this bill will be vetoed by the President. It was firmly stated that the continued growth in spending for health cannot be continued in any of the areas formerly accustomed to continually expanding budgets. It was also pointed out that Phase III controls had brought some slow down in rising costs in the area of health care, and thus some forms of controls have been shown to work.

Some form of national health insurance will be pushed for. The plan will incorporate the concepts of private insurance companies participating with public agencies in order to provide basic comprehensive health insurance even for those without sufficient income to provide for



such protection. The present systems will be used to build on in the proposed plan's development. In addition to broad coverage, mental health care needs and catastrophic illness costs will be covered. Co-insurance and deductibles will be considered as features of the plan to assist in cost control. It was stressed that federalization of the health care systems is not contemplated or believed to be desirable.

Access to health care was deemed the area to be most stressed by federal programs, including the use of payments as a lever to encourage better distribution for access and availability. National health insurance is only a part of the overall national health strategy that Secretary Weinberger and staff are developing. HMO's are a study and demonstration area which he proposes to support but not to expand until more data is in as to their effectiveness as a broadly based effort for whole communities, not just segments of populations. Such HMO groups as Kaiser at Portland, Marshfield, HIP and the San Joaquin Foundation it is believed do not provide, as yet, enough in depth data on which to develop sound plans for an expansion of HMO's at this time.

It was stated as a belief, without any firm reference data, that the bulk of "health care providers" (i.e. physicians) wish to have established guidelines and standards to measure utilization. To this end the Secretary views PSRO's as a peer review mechanism, viz. a physician group monitors a physicians group, to the end that the utilization of health facilities is carried out in an effective, efficient and economical way. It is believed spiraling costs have created public mistrust which PSRO's will help to correct, and that in this area also assurance of quality practices will be established. It is agreed that the medical profession must take the responsible leadership in this area for proper development and operation of PSRO's. Assistant Secretary Edwards feels also that a consumer voice and medical trainee voice must be given in PSRO

deliberations at the state level or PSR Council.

Research should be program directed and not institutional or investigator initiated. Researchers and institutions will be sought in respect to specific areas of federal interest, and on this basis support and scholarships will be awarded.

*In respect to RMP's, a guarded sort of prognosis was given both by Counselor Laird, who spoke of his interest in their extension until June 30, 1974, and by Assistant Secretary Edwards, who stated that it was being considered that RMP's be fitted into certain areas of the federal health strategy so as to be more involved with CHP (b) areas, consumer education, and perhaps in implementing PSRO's, but in essence it was stressed that in concept RMP's must fit into a federal strategy and not be as regionally, individually, and independently operational with their separate strategies, as in the past. It is unclear whether such programmatic guides for RMP's will be administered chiefly from Washington or by Regional Office staffs.*

For the future Community Mental Health Center support and Hill-Burton hospital construction funds are still apparently to be phased out as previously stated, although there were no new statements in emphasis made in this respect; also any suggestions as to rejuvenation were as dim as in respect to the RMP's. Some thoughts as to revenue sharing funds at the state level as being appropriately recommended for Community Mental Health Centers as state sources for support were given by Mr. Laird. Hill-Burton discontinuation was believed to be clearly desirable by Secretary Weinberger, and in respect to renovation money, in its stead depreciation payments and other funds should be used.

The results of this seminar seem not to have given any clearer picture of what Federal Health Strategy for 1973 actually is or may become than existed in 1969-1970, when a committee of the US Senate studied this problem. Though cost con-

sciousness is stressed, clear priorities, needs and alternatives are not clearly identified or discussed.

In 1969 the "Subcommittee on Executive Reorganization and Government Research of The Committee on Government Operations of the U.S. Senate" conducted hearings and published an extensive report on April 30, 1970 on "The Federal Role in Health." Dr. James A. Shannon, former Director of the NIH, then acting as Counselor to the Subcommittee, stated in his report that "federal health programs are a broadly decentralized and highly fragmented" set of "patchwork" activities that "make it difficult to consider broad issues in a coherent manner," and each activity is viewed "not in relation to health but in relation to some other social or other agency goal."

He noted that there then existed serious problems in regard to delivery of health care, medical manpower and education, and biomedical research and concluded that it is clear that a simple extension of present activities, coupled with a further patchwork approach will provide no long-term solution. An examination of present programs yields little comfort that they will modify the conventions governing the distribution or cost of health care.

A basic problem in assessing federal health efforts, Dr. Shannon said, has been the failure of federal agencies and the Bureau of the Budget to present a satisfactory analysis of health spending.

In particular, he said a precise figure regarding spending to improve and maintain the general health of the population was not available.

The \$18.8 billion budgeted for fiscal year 1970 included many activities, he also pointed out, which "had little relationship to the general field of health."

Special analyses of the Budget of the United States provide no aggregate in these presentations which can truly be called a "federal health dollar" or that has any real relationship to the civilian health needs of the Nation.

The Bureau of the Budget's unopposed analysis of federal health activities is "misleading." Dr. Shannon said that contained within "this highly fragmented 'health dollar'" were such activities as Social Security trust funds, funds to meet health needs related to the Armed Forces and federal dependents, and research related primarily to nuclear energy and space. This criticism remains true also in 1973.

The tendency has been for "slogans rather than goals to emerge," Dr. Shannon said, adding that "slogans are poor substitutes."

Dr. Shannon's other remarks as given in 1970 hold true today and even with more strength. "Budgetary constraints are likely to result in program attrition, which in turn probably will have a 'devastating effect' on the overall research purposes of the Nation."

This "progressive erosion of support" will place American leadership in biomedical research "in jeopardy" and will make it "impossible" to stabilize institutions heavily engaged in this work and develop new ones, he said.

The high cost of medical services and the social and economic burdens of disease and disability stem in no small measure from the deficiencies in our state of knowledge. The current and prospective losses that will derive from the failure to plan and administer this vital research function in a unified and coherent manner are truly incalculable.

After observing that there is "an absolute deficiency" in health manpower plus a "maldistribution" of the manpower that is available, Dr. Shannon went on to say: "More importantly, there seems to be a lack of general awareness that simply the modest extension of the present programs, even when coupled with new programs aimed at the evolution of new careers (i.e. physician assistants), will not resolve the combination of shortage and maldistribution. Furthermore, these new physicians are likely to distribute them-



selves within the society in much the same fashion as the present physician population."

At a top level there needs to be formed a mechanism for establishing a truly com-

prehensive review and planning body to study and plan, to identify and deal effectively with health needs and to establish priorities.

Vince Moseley, M.D., SCRMP

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# Breast Cancer: earlier warning system

Futility and frustration beset the physician confronted with breast cancer. For the last 35 years, the survival rate has not significantly changed despite intensive educational programs aimed at earlier detection, and improvement in treatment techniques.

What is the outlook? We know the key to reducing mortality from breast cancer is in the *earliest possible* diagnosis. The stage at which breast cancer is detected is *crucial* to the outcome of treatment. By the time a lump is discovered through BSE or clinical examination, critical time may have been lost.

And we *do* have the means to achieve earlier diagnosis. We do have an *earlier* warning system. Mammography and thermography can detect breast cancer *before* a lump is discernible by palpation. To demonstrate that it is practical and feasible to detect breast cancer earlier by using these modalities, the American Cancer Society and the National Cancer Institute are funding a network of breast cancer demonstration projects. Supported by grants of \$2-million from

the ACS and \$4-million from the NCI, 20 such centers are expected to be operative across the country by the end of the year. Each will screen at no charge, approximately 5,000 women annually, in what is considered to be the ideal detection program—to include clinical examination, mammography and ther-

mography. Each of these detection methods contributes independently to the detection of breast cancer, and none can be dispensed with in the search for early disease.

At present we cannot prevent breast cancer, but the potential for saving more lives is immense. The five-year survival rate surges dramatically from 53% when axillary nodes are positive, to approximately 85% when the disease is localized, to nearly 100% for in-situ cancer.

We have an earlier warning system. Let's use it.



Mammography



Thermography



**american cancer society**

## UROLOGIST AVAILABLE

Urologist—will finish residency July, 1974. University trained. Interested in locating in South Carolina. Please reply to Box B, SCMA, 113 North Coit Street, Florence, S. C. 29501

## OPHTHALMOLOGIST AVAILABLE

Ophthalmologist—will complete military duty summer 1974. University trained, interested in group, solo, or association type practice. Reply to Box C, SCMA, 113 North Coit Street, Florence, S. C. 29501

# Rondomycin® (methacycline HCl)

### CONTRAINDICATIONS:

Hypersensitivity to any of the tetracyclines  
**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

**Usage in pregnancy:** (See above **WARNINGS** about use during tooth development.) Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children:** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in tibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines. To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS:** Gastrointestinal (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes, exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

**Renal toxicity:** rise in BUN, apparently dose related (See **WARNINGS**).

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE:** Adults—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, Rondomycin (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of Rondomycin (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

**SUPPLIED:** Rondomycin (methacycline HCl) 150 mg and 300 mg capsules, syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 6/73



WALLACE PHARMACEUTICALS  
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**When the focus is on bronchitis due to  
susceptible strains of *H. influenzae* and pneumococci\***

**Randomycin® 300 mg.**  
**[methacycline HCl] Capsules**

**Delivers from the very first dose:**

**Studies show that after the first dose serum levels rapidly rise above  
minimum *in vitro* inhibitory concentrations**

\*Since many strains are known to be resistant, routine sensitivity testing is recommended.



# The Rx that says "Relax"



**BUTISOL Sodium provides highly predictable sedative effect:**

minor dosage adjustments are usually all that's needed to produce the desired degree of sedation. (With 3 dosage forms and 4 strengths to make adjustments easy.)

**BUTISOL Sodium offers prompt, smooth, relatively non-cumulative action:** begins to work within 30 minutes...yet, because of its intermediate rate of metabolism, generally has neither a "roller-coaster" nor a "hangover" effect.

**BUTISOL Sodium is remarkably well tolerated:**

a 30-year safety record assures you that there is little likelihood of unexpected reactions.

**BUTISOL Sodium saves your patients money:**

costs less than half as much as most commonly prescribed sedative tranquilizers.\*

These are four good reasons for prescribing BUTISOL Sodium for the many patients who need to have the pace set just a little slower. Its gentle daytime sedative action is often all that's needed to help the usually well-adjusted patient cope with temporary stress.

\*Based on surveys of average daily prescription costs.

**Butisol** SODIUM  
(SODIUM BUTABARBITAL)

**Contraindications:** Porphyria, sensitivity to barbiturates, or susceptibility to dependence on sedative-hypnotics. **Warning:** May be habit forming.

**Precautions:** Exercise caution in: moderate to severe hepatic disease; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants, because of combined effects. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and gastrointestinal disturbances are seldom seen. **Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg. **Available as:** Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

**McNEIL**

McNeil Laboratories, Inc., Fort Washington, Pa. 19034



# walking

**widened Man's  
hunting range but  
increased blood  
pressure in  
hemorrhoidal  
veins**

Precaution  
Prolonged or excessive  
use of Anusol-HC might  
produce systemic  
corticosteroid effects.  
Symptomatic relief should  
not delay definitive  
diagnosis or treatment.  
**Dosage and Administration**  
Anusol-HC: One suppository  
in the morning and one at  
bedtime for 3 to 6 days  
or until the inflammation  
subsides.  
Regular Anusol: one  
suppository in the morning,  
one at bedtime, and one  
immediately following each  
vacation.

to help ease  
acute symptoms of  
hemorrhoids **Anusol-HC<sup>®</sup>**

**Hemorrhoidal Suppositories with Hydrocortisone Acetate. On your Rx only!**  
Each suppository contains hydrocortisone acetate 10 mg; bismuth subgallate 2.25%;  
bismuth resorcin compound 1.75%; benzyl benzoate 1.2%; Peruvian balsam 1.8%; zinc  
oxide 11.0%; and boric acid 5.0%; plus the following inactive ingredients: bismuth  
subiodide, calcium phosphate, and coloring in a bland hydrogenated  
vegetable oil base containing cocoa butter.

for long-term  
patient  
comfort **Anusol<sup>®</sup>**

**Suppositories and Ointment** Each suppository or gram of  
ointment contains the active ingredients of an Anusol-HC  
suppository minus the hydrocortisone.

**Warner/Chilcott**



Division,  
Warner Lambert Company  
Morris Plains, New Jersey  
07950

ANGP-35



# How strong must a tranquilizer be for severe anxiety?

## As strong as Librium® 25 mg (chlordiazepoxide HCl)



The achievement of desired therapeutic results is often a function of the dosage strength as well as the drug's intrinsic action. Thus, when anxiety is *severe*, the 25-mg strength of Librium frequently provides the necessary antianxiety action with a minimum of unwanted adverse reactions. Librium 25 mg is a convenient dosage form for the relief of severe, incapacitating anxiety, specifically formulated to supplement your counsel and reassurance.

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For over 13 years, Librium has been recognized for its excellent benefits-to-risks ratio, an asset in the *higher* dosage ranges as in more common clinical applications. Thus, the frequency of dosage with Librium 25 mg can be flexibly adjusted to the needs and response of the individual patient, up to 100 mg daily if required. Total daily dosage for the elderly and debilitated should not exceed 20 mg. When severe anxiety has been reduced, Librium dosage should be correspondingly reduced or discontinued entirely.



basic support  
in severe anxiety  
**Librium® 25 mg**  
(chlordiazepoxide HCl)  
1 capsule t.i.d./q.i.d.



Roche Laboratories  
Division of Hoffmann-La Roche Inc  
Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions; edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increase and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.



# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

SEDATIVISM

FAMILIAL MULTIPLE POLYPOSIS

CLINICOPATHOLOGICAL CONFERENCE

THYROID CRISIS

JOHN WARING PARKER, M.D.

SEXUAL PROBLEMS

Office Laboratory Licensure

Cancer Topics

JUNE 69

OCTOBER, 1973

OCTON

NUMBER 10

## **Two forms of Cordran®** **Flurandrenolide**



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to the profession on request.

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Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counseling



and a few may need counseling  
*and* the psychotropic action of Valium® (diazepam).



Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect.

**Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.



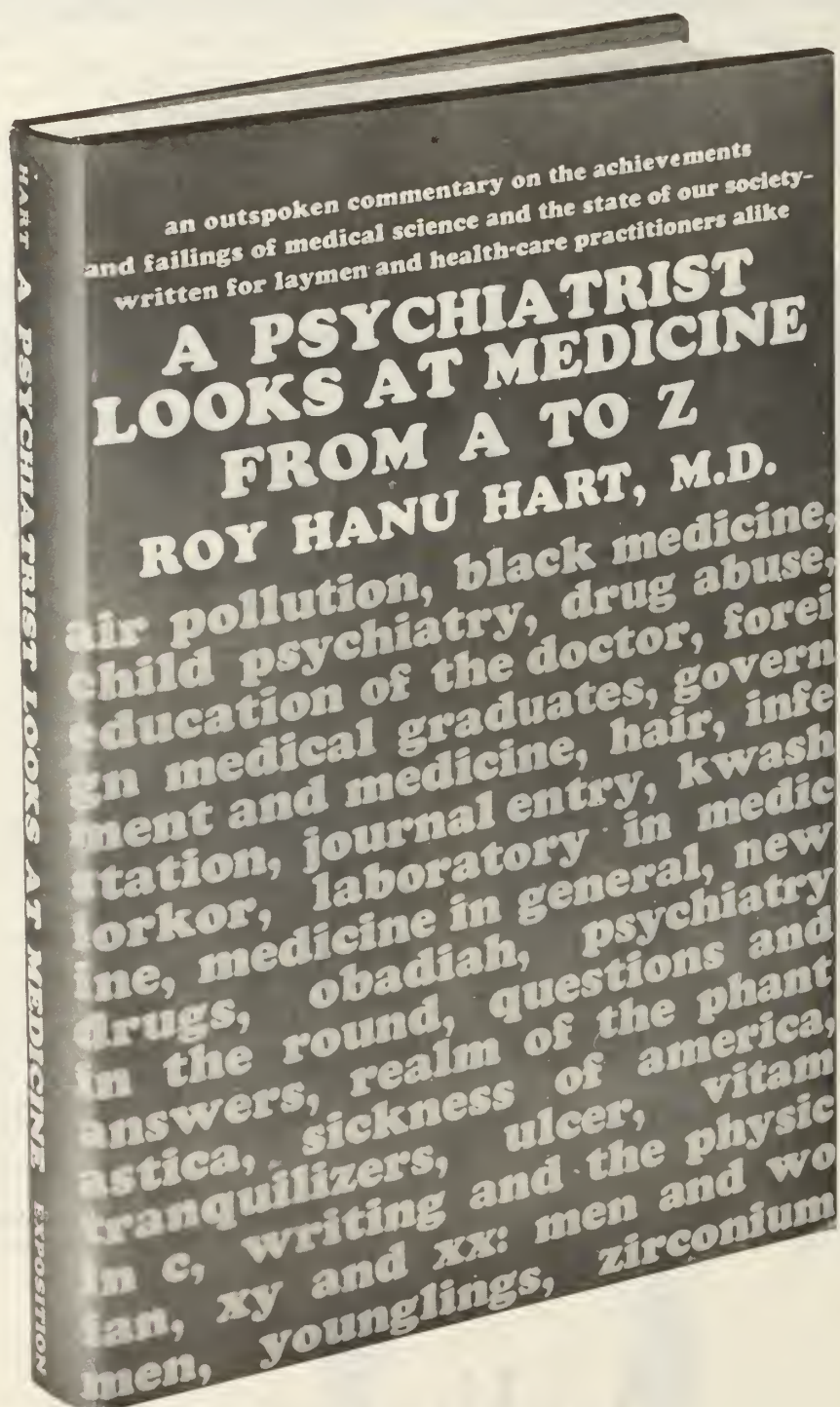
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# Valium® (diazepam)

To help you manage excessive psychic tension



MUCH OF IT WAS WRITTEN BY THE  
AUTHOR WHEN HE WAS WITH THE  
MEDICAL UNIVERSITY OF SOUTH  
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# walking

**widened Man's  
hunting range but  
increased blood  
pressure in  
hemorrhoidal  
veins**

#### Precaution

Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects.

Symptomatic relief should not delay definitive diagnosis or treatment.

#### Dosage and Administration

Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides.

Regular Anusol: one suppository in the morning, one at bedtime, and one immediately following each evacuation.

to help ease  
acute symptoms of **Anusol-HC<sup>®</sup>**  
hemorrhoids

**Hemorrhoidal Suppositories with Hydrocortisone Acetate. On your Rx only!**

Each suppository contains hydrocortisone acetate 10 mg; bismuth subgallate 2.25%; bismuth resorcin compound 1.75%; benzyl benzoate 1.2%; Peruvian balsam 1.8%; zinc oxide 11.0%; and boric acid 5.0%; plus the following inactive ingredients: bismuth subiodide, calcium phosphate, and coloring in a bland hydrogenated vegetable oil base containing cocoa butter.

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ANGP-35

for long-term  
patient  
comfort **Anusol<sup>®</sup>**

**Suppositories and Ointment** Each suppository or gram of ointment contains the active ingredients of an Anusol-HC suppository minus the hydrocortisone.



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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

## Contributions of Original Articles

Mailing address—Edw. E. Kimbrough, M.D., Editor. 2709 Laurel Street, Columbia, S. C. 29204.

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

Illustrations—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

References—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, *Arch Int Med* 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the *Index Medicus*. Other abbreviations should also be standard—e.g. mg, ml, Gm.

Reprints—Reprints will be made for the author at established rates.



## Complete Product Information:

**Description:** Bactrim is a synthetic antibacterial combination product, available in scored light-green tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole.

Trimethoprim is 2,4-diamino-5-(3,4,5-trimethoxybenzyl) pyrimidine. It is a white to light-yellow, odorless, bitter compound with a molecular weight of 290.3.

Sulfamethoxazole is *N*-(5-methyl-3-isoxazolyl)sulfanilamide. It is an almost white in color, odorless, tasteless compound with a molecular weight of 253.28.

**Actions: Microbiology:** Sulfamethoxazole inhibits bacterial synthesis of dihydrofolic acid by competing with *para*-aminobenzoic acid. Trimethoprim blocks the production of tetrahydrofolic acid from dihydrofolic acid by binding to and reversibly inhibiting the required enzyme, dihydrofolate reductase. Thus, Bactrim blocks two consecutive steps in the biosynthesis of nucleic acids and proteins essential to many bacteria.

*In vitro* studies have shown that bacterial resistance develops more slowly with Bactrim than with trimethoprim or sulfamethoxazole alone.

*In vitro* serial dilution tests have shown that the spectrum of antibacterial activity of Bactrim includes the common urinary tract pathogens with the exception of *Pseudomonas aeruginosa*. The following organisms are usually susceptible: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and indole-positive proteus species.

Representative Minimum Inhibitory Concentration Values for Bactrim-Susceptible Organisms (MIC—mcg/ml)

Bacteria	Trimethoprim alone	Sulfamethoxazole alone	TMP/SMX (1:20)	
			TMP	SMX
<i>Escherichia coli</i>	0.05–1.5	1.0 –245	0.05–0.5	0.95– 9.5
<i>Proteus</i> spp. indole positive	0.5 –5.0	7.35 –300	0.05–1.5	0.95–28.5
<i>Proteus mirabilis</i>	0.5 –1.5	7.35 – 30	0.05–0.15	0.95– 2.85
<i>Klebsiella-Enterobacter</i>	0.15–5.0	0.735–245	0.05–1.5	0.95–28.5

**Human Pharmacology:** Bactrim is rapidly absorbed following oral administration. The blood levels of trimethoprim and sulfamethoxazole are similar to those achieved when each component is given alone. Peak blood levels for the individual components occur one to four hours after oral administration. The half-lives of sulfamethoxazole and trimethoprim, 10 and 16 hours respectively, are relatively the same regardless of whether these compounds are administered as individual components or as Bactrim. Detectable amounts of trimethoprim and sulfamethoxazole are present in the blood 24 hours after drug administration. Free sulfamethoxazole and trimethoprim blood levels are proportionately dose-dependent. On repeated administration, the steady-state ratio of trimethoprim to sulfamethoxazole levels in the blood is about 1:20.

Sulfamethoxazole exists in the blood as free, conjugated and protein-bound forms; trimethoprim is present as free, protein-bound and metabolized forms. The free forms are considered to be the therapeutically active forms. Approximately 44 percent of trimethoprim and 70 percent of sulfamethoxazole are protein-bound in the blood. The presence of 10 mg percent sulfamethoxazole in plasma decreases the protein binding of trimethoprim to an insignificant degree; trimethoprim does not influence the protein binding of sulfamethoxazole.

Excretion of Bactrim is chiefly by the kidneys through both glomerular filtration and tubular secretion. Urine concentrations of both sulfamethoxazole and trimethoprim are considerably higher than are the concentrations in the blood. When administered together as in Bactrim, neither sulfamethoxazole nor trimethoprim affects the urinary excretion pattern of the other.

**Indications:** Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species).

**Important note:** Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.

**Contraindications:** Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period (see Reproduction Studies).

**Warnings:** Deaths associated with the administration of sulfonamides have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Experience with trimethoprim alone is much more limited, but it has been reported to interfere with hematopoiesis in occasional patients. In elderly patients concurrently receiving certain diuretics, primarily thiazides, an increased incidence of thrombopenia with purpura has been reported.

The presence of clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts should be done frequently in patients receiving Bactrim. If a significant reduction in the count of any formed blood element is noted, Bactrim should be discontinued.

At the present time, there is insufficient clinical information on the use of Bactrim in infants and children under 12 years of age to recommend its use.

**Precautions:** Bactrim should be given with caution to patients with impaired renal or hepatic function, to those with possible folate deficiency and to those with severe allergy or bronchial asthma. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis may occur. This reaction is frequently dose-related. Adequate fluid intake must be maintained in order to prevent crystalluria and stone formation. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

**Adverse Reactions:** For completeness, all major reactions to sulfonamides and to trimethoprim are included below, even though they may not have been reported with Bactrim.

**Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia.

**Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis.

**Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis.

**C.N.S. reactions:** Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness.

**Miscellaneous reactions:** Drug fever, chills, and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L. E. phenomenon have occurred.

The sulfonamides bear certain chemical similarities to some goitrogens, diuretics (acetazolamide and the thiazides) and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents. Rats appear to be especially susceptible to the goitrogenic effects of sulfonamides, and long-term administration has produced thyroid malignancies in the species.

**Dosage and Administration:** Not recommended for use in children under 12 years of age.

The usual adult dosage is two tablets every 12 hours for 10 to 14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

**How Supplied:** Tablets, containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 1000; Prescription Paks of 40, available singly and in trays of 10. Imprint on tablets: ROCHE 50.

**Reproduction Studies:** In rats, doses of 533 mg/kg sulfamethoxazole or 200 mg/kg trimethoprim produced teratological effects manifested mainly as cleft palates. The highest dose which did not cause cleft palates in rats was 512 mg/kg sulfamethoxazole or 192 mg/kg trimethoprim when administered separately. In two studies in rats, no teratology was observed when 512 mg/kg of sulfamethoxazole was used in combination with 128 mg/kg of trimethoprim. However, in one study, cleft palates were observed in one litter out of 9 when 355 mg/kg of sulfamethoxazole was used in combination with 88 mg/kg of trimethoprim.

In rabbits, trimethoprim administered by intubation from days 8 to 16 of pregnancy at dosages up to 500 mg/kg resulted in higher incidences of dead and resorbed fetuses, particularly at 500 mg/kg. However, there were no significant drug-related teratological effects.

# BACTRIM™

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.



Roche Laboratories  
Division of Hoffmann-La Roche Inc  
Nutley, N.J. 07110

# Recommendations<sup>†</sup> on Combination Live Virus Vaccines

## American Academy of Pediatrics

### Committee on Infectious Diseases

In the September 15, 1971 AAP Newsletter sent to Academy members, the Committee on Infectious Diseases of the American Academy of Pediatrics stated its recommendations on the use of combination live virus vaccines. After a careful review of available data, the committee concluded that:

- "This information indicates that the products are both safe and effective when used as directed."
- The vaccine "...can, therefore, be recommended with the obvious advantages of reduction in the number of injections for any given child and a concomitant decrease in the required visits to a physician's office or clinic."

<sup>†</sup>For complete text of both recommendations see your MSD representative or write to Professional Service Dept., Merck Sharp & Dohme, West Point, Pa. 19486.

## United States Public Health Service

### Advisory Committee on Immunization Practices

In the April 24, 1971 issue of *Morbidity and Mortality Weekly Report*, the Advisory Committee on Immunization Practices of the United States Public Health Service presented recommendations on the use of combination live virus vaccines. The committee stated that:

- "Data indicate that antibody response to each component of these combination vaccines is comparable with antibody response to the individual vaccines given separately."
- "There is no evidence that adverse reactions to the combined products occur more frequently or are more severe than known reactions to the individual vaccines (see pertinent ACIP recommendations)."
- "The obvious convenience of giving already selected antigens in combined form should encourage consideration of using these products when appropriate."





# M-M-R<sup>\*</sup>

## (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE | MSD)

Single-dose vials

M-M-R, given in a single injection, fits easily into your routine immunization program for well babies. Given at age 12 months, M-M-R provides for vaccination early in life against measles, mumps, and rubella.

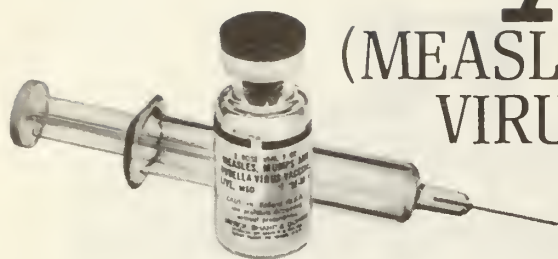
MSD suggested immunization schedule for well babies	
Age	Vaccine(s)
2 months	DPT (diphtheria-pertussis-tetanus) Oral poliomyelitis vaccine (triple)
3 months	DPT <sup>1</sup>
4 months	DPT Oral poliomyelitis vaccine (triple)
6 months	Oral poliomyelitis vaccine (triple)
12 MONTHS	M-M-R (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE, MSD)

1. This vaccination may be given at 3 months, 5 months, or at 6 months, depending on your preference or on the condition of the child.  
Since vaccination with a live virus vaccine may depress the results of a tuberculin test for four weeks or longer, the test and the vaccine should not be given during the same office visit.

<sup>\*</sup>Trademark of Merck & Co., Inc.

For a brief summary of prescribing information, please see following page.





# M-M-R

## (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE | MSD)

Single-dose vials

No untoward reactions peculiar to the combination vaccine (M-M-R) have been reported.

Moderate fever (101-102.9 F) occurs occasionally. High fever (over 103 F) occurs less commonly. On rare occasions, children who develop fever may exhibit febrile convulsions. Rash (usually minimal and without generalized distribution) may occur infrequently.

Since clinical experience with measles, mumps, and rubella virus vaccines given individually indicates that very rarely encephalitis and other nervous system reactions have occurred, such reactions may also occur with M-M-R. A cause and effect relationship, however,

has not been established.

Excretion of the live attenuated rubella virus from the throat has occurred in the majority of susceptible individuals administered the rubella vaccine. There is no definitive evidence to indicate that such virus is contagious to susceptible persons who are in contact with the vaccinated individuals. Consequently, transmission, while accepted as a theoretical possibility, has not been regarded as a significant risk.

Must not be given to women who are pregnant or who might become pregnant within three months following vaccination.

**Contraindications:** Pregnancy or possibility of pregnancy within three months following vaccination; infants less than one year old; sensitivity to chicken or duck, chicken or duck eggs or feathers, or neomycin; any febrile respiratory illness or other active febrile infection; active untreated tuberculosis; therapy with ACTH, corticosteroids, irradiation, alkylating agents, or antimetabolites; blood dyscrasias, leukemia, lymphomas of any type, or other malignant neoplasms affecting the bone marrow or lymphatic systems; gamma globulin deficiency, i.e., agammaglobulinemia, hypogammaglobulinemia, and dysgammaglobulinemia.

**Precautions:** Administer subcutaneously; do not give intravenously. Epinephrine should be available for immediate use should an anaphylactoid reaction occur. Should not be given less than one month before or after immunization with other live virus vaccines; vaccination should be deferred for at least six weeks following blood transfusions or administration of more than 0.02 cc immune serum globulin (human) per pound of body weight, or human plasma.

Due caution should be employed in children with a history of febrile convulsions, cerebral injury, or any other condition in which stress due to fever should be avoided. The physician should be alert to the temperature elevation which may occur after vaccination.

Excretion of the live attenuated rubella virus from the throat has occurred in the majority of susceptible individuals administered the rubella vaccine. There is no definitive evidence to indicate that such virus is contagious to susceptible persons who are in contact with the vaccinated individuals. Consequently, transmission, while accepted as a theoretical possibility, has not been regarded as a significant risk.

Attenuated live virus measles and mumps vaccines, given separately, may temporarily depress tuberculin skin sensitivity; therefore, if a tuberculin test is to be done, it should be scheduled before vaccination, to avoid the possibility of a false negative response.

Before reconstitution, refrigerate vaccine at 2-8 C (35.6-46.4 F) and protect from light. Use only diluent supplied to reconstitute vaccine. If not used immediately, return reconstituted vaccine to refrigerator at 2-8 C (35.6-46.4 F), and discard after eight hours.

**Adverse Reactions:** Fever, rash; mild local reactions such as erythema, induration, tenderness, regional lymphadenopathy; parotitis; thrombocytopenia and purpura; allergic reactions such as urticaria; arthritis, arthralgia, and polyneuritis.

Occasionally, moderate fever (101-102.9 F); less commonly, high fever (above 103 F); rarely, febrile convulsions.

Encephalitis and other nervous system reactions that have occurred very rarely with the individual vaccines may also occur with the combined vaccine.

Transient arthritis, arthralgia, and polyneuritis are features of natural rubella and vary in frequency and severity with age and sex, being greatest in adult females and least in prepubertal children. Such reactions have been reported with live attenuated rubella virus vaccines. Symptoms relating to joints (pain, swelling, stiffness, etc.) and to peripheral nerves (pain, numbness, tingling, etc.) occurring within approximately two months after immunization should be considered as possibly vaccine related. Symptoms have generally been mild and of no more than three days' duration. The incidence in prepubertal children would appear to be less than 1% for reactions that would interfere with normal activity or necessitate medical attention.

**How Supplied:** Single-dose vials of lyophilized vaccine, containing when reconstituted not less than 1,000 TCID<sub>50</sub> (tissue culture infectious doses) of measles virus vaccine, live, attenuated, 5,000 TCID<sub>50</sub> of mumps virus vaccine, live, and 1,000 TCID<sub>50</sub> of rubella virus vaccine, live, expressed in terms of the assigned titer of the NIH Reference Measles, Mumps, and Rubella Viruses, and approximately 25 mcg neomycin, with a disposable syringe containing diluent and fitted with a 25-gauge, 5/8" needle. Also in boxes of 10 single-dose vials nested in a pop-out tray with a separate box of 10 diluent-containing syringes.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

**MSD**  
**MERCK**  
**SHARP &**  
**DOHME**



# Panalgesic<sup>®</sup>

## RELIEVES PAIN

**Usage:** Apply where it hurts with gentle massage. May be repeated as often as necessary. A first aid in injuries, relieving pain and discouraging infection. Useful in industrial clinics—collegiate and professional athletic training programs.

*\*You may request a clinical supply.*

Dispensed in 4 oz. bottles, 6 oz. aerosol spray, pint and half gallon bottles.



WILLIAM P. POYTHRESS & COMPANY, INC.

RICHMOND, VIRGINIA 23261



# Gantanol® (sulfamethoxazole) and the

**0.1 M.I.C.  
for three hours**  
Similar elongations  
occur regardless of  
antibacterial used.

**1.0 M.I.C.  
for three hours**  
Similar midcell  
defects seen with  
increased antibac-  
terial concentrations.

**10 M.I.C.  
for three hours**  
Similar spheroplast-  
like forms appear  
with high  
concentrations of  
the antibacterials.



E. coli + sulfamethoxazole



E. coli + tetracycline

## The Scanning Electron Microscope (SEM) reveals the effect

**The *in vitro* experiment.** These SEM photomicrographs were taken as part of a study exploring the effects of various antibacterials with different modes of action on the surface morphology of bacteria. The scanning electron microscope was used because of its ability to show three-dimensional views of organisms, enabling better definition and appreciation of surface morphology.

For this portion of the experiment, *E. coli* were exposed to the following agents: sulfamethoxazole, a chemical drug which acts by interference with para-

aminobenzoic acid utilization; tetracycline, which interferes with intracellular protein synthesis; and cephalothin and ampicillin, which are cell-wall-active drugs.

Strains of *E. coli*, each susceptible to the respective antibacterials, were exposed for 15, 30, 60, 120 and 180 minutes and 18 hours to several concentrations of each agent.

Following the 180-minute or three-hour exposures to the antibacterials at 0.1 M.I.C., 1.0 M.I.C. and 10 M.I.C., photoscans of the *E. coli* were taken. As shown above, regardless of the antibacterial agent used or its mode of action, the changes in surface morphology were remarkably similar... elongation at low drug concentrations, midcell defects at higher



# Three-Dimensional World of SEM



E. coli + cephalothin



E. coli + ampicillin

## of certain antibacterials on bacterial surface morphology

concentrations and ultimate progression to spheroplast-like forms.<sup>1</sup>

**The interpretation.** "At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."<sup>2</sup>

**It should be noted that this information represents only *in vitro* research. No clinical significance can be drawn from this study concerning the effective-**

**ness of any of the agents discussed, as it is not possible to extrapolate *in vitro* data to humans. This information is presented to demonstrate the continuing research activities in the area of antibacterials, particularly modes of action and surface morphology.**

<sup>1</sup>Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

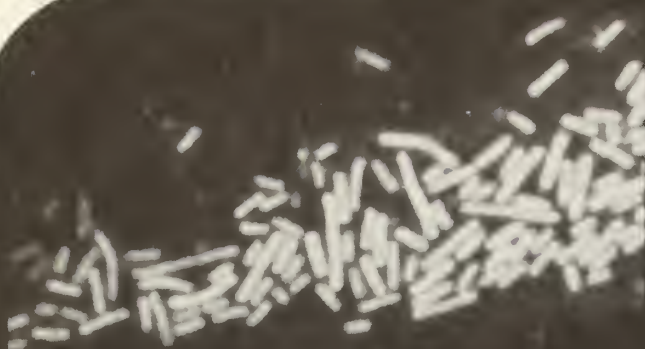
<sup>2</sup>*Antimicrob. Agents Chemother.*, 1:164, 1972.

**See next two pages for product information.**

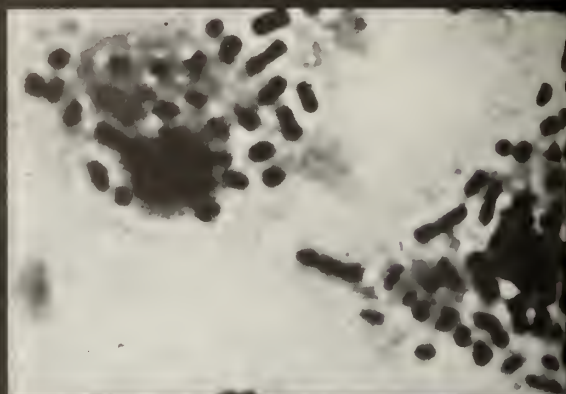


Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

# Observations from in



*E. coli*—Fluorescent stain



*Klebsiella* sp.—Stain to define capsular envelope

## ■ Effective control of primary susceptible bacterial offenders

Gantanol® (sulfamethoxazole) is effective against susceptible strains of *E. coli*, the most common cause of urinary tract infections. It is also highly effective against other susceptible gram-negative and gram-positive organisms, usually *Klebsiella*-*Aerobacter*, *Staph. aureus* and *Proteus mirabilis*.

## ■ Prompt antibacterial blood and urine levels—in from 2 to 3 hours

Antibacterial levels of Gantanol usually appear in blood and urine in from 2 to 3 hours after the initial 2-Gm adult dose. This rapid initiation of effective antibacterial activity enables prompt treatment of certain nonobstructed urinary tract infections and may also help avert possible sequelae.

## ■ Around-the-clock coverage for 14 days

Mounting evidence in current medical literature suggests a minimum of 14 days' continuous therapy for certain urinary tract infections.\* Following the initial 2-Gm adult dosage of Gantanol, each 1-Gm dose provides up to 12 hours of antibacterial activity during the treatment period. When urinary tract infection is more severe, *t.i.d.* (q. 8 h.) dosage schedule may be required. Both regimens provide around-the-clock therapy, important because normal urinary retention during sleep tends to favor bacterial proliferation. It is also convenient for patients not to have to take middle-of-the-night medication.

## ■ Also effective in certain nonobstructed chronic and recurrent urinary tract infection

Nonobstructed urinary tract infections, such as cystitis or pyelonephritis—chronic and/or recurrent—develop more commonly in the elderly and debilitated, and response to Gantanol is often highly satisfactory.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note:** Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

**Contraindications:** Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

**Warnings:** Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-

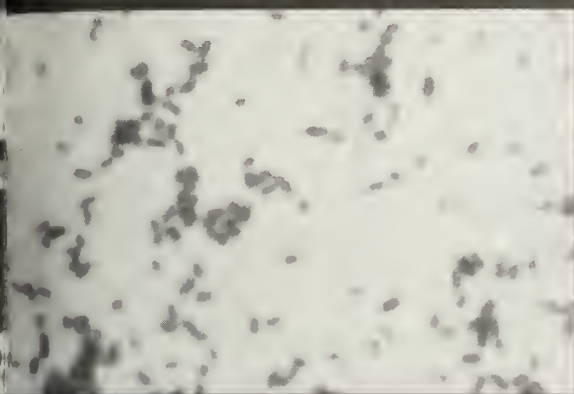
hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

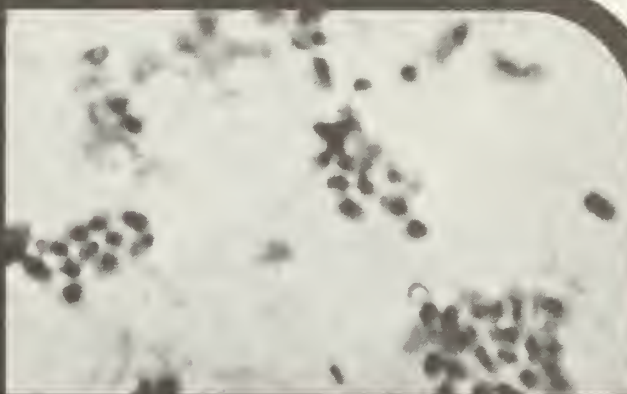
**Adverse Reactions:** Blood dyscrasias (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglo-



# clinical practice



*Enterobacter* sp.—Gram stain showing characteristic gram-negative rod



*Proteus mirabilis*—Flagella stain

## ■ Your option: tablets or suspension

Gantanol Tablets or the pleasant-tasting, cherry-flavored Suspension can provide dependable antibacterial activity to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement usually may be expected to begin within 24 to 48 hours. Usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol is generally well tolerated, with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended during therapy.

\*Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

## In nonobstructed cystitis due to susceptible organisms

# Gantanol<sup>®</sup> B.I.D. (sulfamethoxazole) Basic therapy

binemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Dosage:** Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

*Usual adult dosage:* 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d* or *t.i.d* depending on severity of infection.

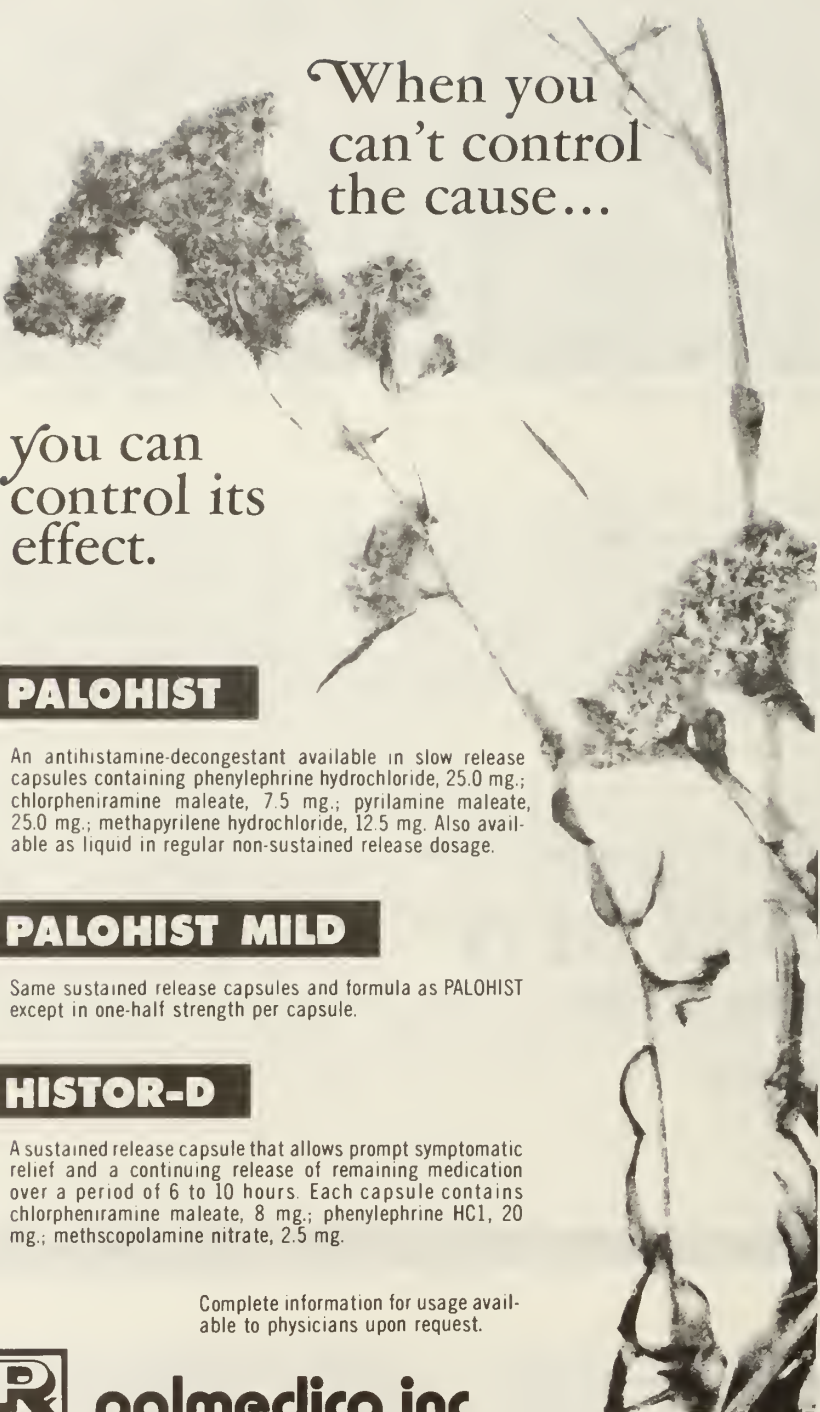
*Usual child's dosage:* 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d*. Maximum dose should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

ROCHE

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Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110





When you  
can't control  
the cause...

you can  
control its  
effect.

### **PALOHIST**

An antihistamine-decongestant available in slow release capsules containing phenylephrine hydrochloride, 25.0 mg.; chlorpheniramine maleate, 7.5 mg.; pyrilamine maleate, 25.0 mg.; methapyrilene hydrochloride, 12.5 mg. Also available as liquid in regular non-sustained release dosage.

### **PALOHIST MILD**

Same sustained release capsules and formula as PALOHIST except in one-half strength per capsule.

### **HISTOR-D**

A sustained release capsule that allows prompt symptomatic relief and a continuing release of remaining medication over a period of 6 to 10 hours. Each capsule contains chlorpheniramine maleate, 8 mg.; phenylephrine HCl, 20 mg.; methscopolamine nitrate, 2.5 mg.

Complete information for usage available to physicians upon request.



**palmedico, inc.**

ETHICAL PHARMACEUTICALS • P. O. DRAWER 3397 • COLUMBIA, S. C. 29203

# The Rx that says "Relax"

**BUTISOL Sodium provides highly predictable sedative effect:** minor dosage adjustments are usually all that's needed to produce the desired degree of sedation. (With 3 dosage forms and 4 strengths to make adjustments easy.)

**BUTISOL Sodium offers prompt, smooth, relatively non-cumulative action:** begins to work within 30 minutes...yet, because of its intermediate rate of metabolism, generally has neither a "roller-coaster" nor a "hangover" effect.

**BUTISOL Sodium is remarkably well tolerated:** a 30-year safety record assures you that there is little likelihood of unexpected reactions.

**BUTISOL Sodium saves your patients money:** costs less than half as much as most commonly prescribed sedative tranquilizers.\*

These are four good reasons for prescribing BUTISOL Sodium for the many patients who need to have the pace set just a little slower. Its gentle daytime sedative action is often all that's needed to help the usually well-adjusted patient cope with temporary stress.

\*Based on surveys of average daily prescription costs.

**Butisol** SODIUM  
(SODIUM BUTABARBITAL)

**Contraindications:** Porphyria, sensitivity to barbiturates, or susceptibility to dependence on sedative-hypnotics. **Warning:** May be habit forming. **Precautions:** Exercise caution in: moderate to severe hepatic disease; withdrawal in drug dependence or the taking of excessive doses over a long period, to avoid withdrawal symptoms; elderly or debilitated patients, to avoid possible marked excitement or depression; use with alcohol or other CNS depressants, because of combined effects. **Adverse Reactions:** Drowsiness at daytime sedative dose levels, skin rashes, "hangover" and gastrointestinal disturbances are seldom seen. **Usual Adult Dosage:** For daytime sedation, 15 mg. to 30 mg. t.i.d. or q.i.d. For hypnosis, 50 mg. to 100 mg. **Available as:** Tablets, 15 mg., 30 mg., 50 mg., 100 mg.; Elixir, 30 mg. per 5 cc. (alcohol 7%). BUTICAPS® [Capsules BUTISOL SODIUM (sodium butabarbital)] 15 mg., 30 mg., 50 mg., 100 mg.

**McNEIL**

McNeil Laboratories, Inc. Fort Washington, Pa. 19034



# **Loridine<sup>®</sup> I.M.** cephaloridine

500-mg. and  
1-Gm. ampoules

*Additional information available  
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# The Journal

of the

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### SEDATIVISM. A SYNDROME OF MULTIPLE ADDICTION

J. RUTHERFOORD SMITH, M. D.\*  
Walterboro, S. C. 29488

The purpose of this paper is not to elaborate upon the multiple definitions of addiction, nor the problem of hard or class A narcotics addiction, neither the hallucinogenic drugs, pharmacology, metabolic, neurologic nor psychopathologic complications of alcohol-sedative addiction, nor to cite multiple and varied statistics from multiple sources. It is the purpose of this paper to emphasize the fact that there is a syndrome of sedativism and of multiple addiction which should be labeled Sedativism, and it should, in this enlightened day, be given the dignity of the term, disease. It is not possible within the confines of this brief discussion to moralize on the social, criminologic or spiritual decay caused by, what is in the author's opinion, America's and, indeed, modern civilization's most devastating, underestimated, and maltreated medical problem.

The disease termed sedativism is a syndrome which probably causes more mortality, directly or indirectly than any three diseases known to man. Its morbidity in terms of illness cannot be measured; its economic impact upon the nation's economy in loss of production is horrendous in itself, and it has long been known to be the leading cause of highway accidents,

household accidents and fatalities of all types, ranging from accidental overdose to psychotic suicide. What is a disease? A disease is a feeling or state of being unwell. The alcohol-sedative addict certainly fits this category. What is addiction? Addiction is a dependency on some agent, with a tendency to increase its use. It is the author's opinion that addiction need not be physical but may be psychological or a combination of physical and psychological. Habituation may be considered to be an early stage of addiction and may be regarded as being "a little bit pregnant." For the purpose of this study addiction is defined as a repetitive ingestion, injection or inhalation of any chemical substance which may adversely affect any realm of an individual's life—be it physical, psychological, sexual, social, economic or last, but not least, spiritual.

If we then consider sedativism a disease, it fits the requirements of a disease. A disease has a cause; therefore, sedativism has a cause — the chemical itself, whether it is alcohol, tranquilizer, hypnotic or narcotic hallucinogenic or amphetamine type drug. A disease has signs and symptoms and sedativism has signs and symptoms which are too numerous. A disease has a course

and the course in sedativism, if not arrested leads to commitment to mental institutions or internment. A disease has a treatment and sedativism also has a treatment. In the author's opinion, the only treatment of the alcohol-sedative addict is that offered by Alcoholics Anonymous. A disease has a prognosis; therefore, the prognosis in sedativism is extremely grave unless the patient is convinced that help is obtainable through the program of Alcoholics Anonymous. Lastly a disease has an outcome. The outcome of sedativism is either arrest, as in the case of tuberculosis and many carcinomas, or total mental and physical debilitation resulting in death or incarceration in a sanitarium. Looking at this criteria certainly much more is known about alcohol-sedative addiction or sedativism than is known about many syndromes that are dignified with the title of disease.

The cause, signs and symptoms of alcohol or the addictive substance used by the potential or actual addict are well known to all physicians in the late stages of this disease. The diagnosis in the early stages of addiction will depend upon the physician's index of suspicion. The physician frequently sees in his office the patient with multiple complaints without any positive physical or laboratory findings. In such a case suspicion should be high; for statistically the fourth most prevalent disease in the country is alcohol addiction and statistics do not lie. The index of suspicion will produce the degree of diagnosis. The executive with the three martini lunch and pre-dinner cocktails over a period of years will, in actuality, point to a dependency upon alcohol. The young female taking four to six Fiorinals containing three-fourths of a grain of sandobarbital a day for a headache, real or imaginary, is a potential or actual addict to sandobarbital or barbiturate. The menopausal female using sleeping medication consisting of any of the barbiturates or non barbiturates which will produce the hypnosis sought for by the sedative addict is a

prime suspect. In ninety per cent of these cases the amphetamines are used in the morning and tranquilizers throughout the day. The physician will, if his index of suspicion is high enough, diagnose the grade school or high school youngster who sniffs glue or is sneaking his mother's diet pills. If the index of suspicion is low, then frank addiction must slap the physician in the face before he is willing to admit that he is dealing with a patient who is an addict. The course is variable depending upon the individual, his physician and, "keeper."

The treatment of the acute stage of sedativism, be it alcohol or drugs, belongs in the hands of the internist or generalist, not the hands of the psychiatrist. The patient belongs in a general or teaching hospital on the medical floor receiving the finest and most intensive care possible. These people are sick in the truest sense of the word and untreated they will die. Once a diagnosis is made, the prevention of serious withdrawal syndrome with its morbidity and high mortality is the direct responsibility of the physician. The best treatment for the withdrawal syndrome or increased psychomotor activity progressing to delirium tremens is prevention. It cannot be predicted who will have severe complications of withdrawal; therefore, the addict belongs on the medical floor of a hospital, not at home, or in a jail or the psychiatric ward of a hospital.

Detoxification methods are varied and must rest in the hands of a competent physician rather than the amateur. If the physician is not familiar with detoxification or resents treating the recedavistic nature of the disease, he should refer the patient to one who is willing and able to accept the responsibility of the proper and thorough care of the sick individual. A definitive treatment is the challenge. Here is the question of education. Sir William Osler considered by many as the father of internal medicine said, "To understand syphilis is to understand medicine." It may well be apropos in this day and age



to paraphrase this statement, "To understand sedativism is to understand medicine." Like syphilis the complications of sedative-alcohol addiction can mimic almost any disease symptom, medical or psychiatric found in any of the learned medical textbooks.

Once detoxification is complete, the competent and conscientious physician, interested and knowledgeable in the disease, will feed his patients into Alcoholics Anonymous. For as Osler said in his 1913 address to the Yale graduating class, "One must learn to live his life in day tight compartments." This also is the philosophy of Alcoholics Anonymous. The patient suffering from alcohol-sedative addiction must learn to stay sober 24 hours at a time, remembering to live each day drug free, never promising himself or others that, "I will never do it again." The physician undertaking the definitive treatment owes it to himself and to his patients to attend Alcoholics Anonymous meetings, not one or two, but numerous meetings; for here he will see first hand all the stages of the disease. The physician who chooses to specialize in leprosy or Hansen's disease does not merely read about it in a textbook, but goes and observes first hand the pathologic process in all stages of arrest. Follow "Sutton's Law," as Dr. Stanley Gitlow says for when asked why he robbed banks, Willie Sutton retorted, "That is where the money is." Medicine and Alcoholics Anonymous are not incompatible; they complement each other. Both offer the patient the only real hope of a happy, sober life. The physician will find himself more than welcome at any Alcoholics Anonymous meeting, and he will find that A. A. will provide him with the best social service follow up that is possible at no cost to him or his patient. Each addict must reach a bottom to obtain what psychiatrists call motivation, and what Alcoholics Anonymous calls a willingness to get well. Never should one addictive chemical be substituted to alleviate craving for another. Tranquilizers,

sedatives and alcohol, and in some cases narcotics, are interchangeable; thus the iatrogenic diseased process is furthered.

It is also imperative for the physician to realize that he is not treating an individual with a disease but a family with a disease. Here again Alcoholics Anonymous with Alanons and Alateens is invaluable. Too frequently we arrest the addiction of one member of a family only to enrich the neurosis of another. Little has been said about the realm of the psychiatrist in the treatment of sedativism. It now rears its all important head and takes its rightful place. Once a patient is detoxified and begins to live drug free, preexisting neuroses and psychoses become apparent and require the skill and acumen of a psychiatrist. It is well known that many schizophrenics and manic depressives will treat their diseases, and adequately so, with ethyl alcohol for a number of years until alcoholism requires hospitalization and withdrawal of the controlling chemical from the central nervous system. Then and only then, will the true psychological picture of the individual be revealed. In truth it is fruitless, hopeless and ludicrous to attempt to treat psychiatrically any addict as an out patient without the withdrawal of the chemical. It is a fact that the practicing addict can give many pictures of psychosis, neurosis, or personality deviation. This is the chemical personality not the personality that can only be assessed after many months of sobriety.

Education is certainly an important role in the future of this syndrome. How many young physicians graduate from medical school who have never heard a lecture concerning addiction to alcohol or sedative drugs? When the author attended medical school, alcohol was not mentioned. This was not long ago and he likes to think that he attended an excellent medical school. Research is needed. Funds are donated in the millions for such diseases as sickle cell anemia, cystic fibrosis, multiple sclerosis etc., etc. Why not a fund for alcohol-sedative addiction? Funds are being obtained



for treatment of heroine or hard narcotics addiction. Much of this treatment is inadequate, and, in the author's opinion, the substitution of one addictive drug for another. Because of the sensationalism afforded hard narcotics addiction by the press and television media, much public emotionalism and sentiment have been obtained. Most of federally obtained money for treatment of addiction goes to the treatment of the heroine addict; little if any, reaches research and actual treatment for alcohol-sedative addiction. Many of these programs are being run by well meaning but poorly informed physicians, psychiatrists, psychologists and sociologists who simply do not understand the disease. After all why swap one addictive substance for another? Why give the alcoholic Librium, Valium etc.? Why let him eat instead of drink his addictive substance?

The prognosis of sedativism discussed earlier in this paper depends upon the empathy of the physician and the motivation of the patient. The prognosis is arrest, confinement, or internment. It is as simple as that. The disease is progressive and totally fatal unless arrested. The prognosis depends upon a multitude of factors, mainly the damage done and the motivation of the patient. The elevator of addiction stops at all floors. The patient himself must decide where to get off, but the physician may plant the seed thus influencing the patient to reach a higher bottom.

If allowed to run its course, sedativism may either terminate in permanent neuropsychiatric damage with irreversible results and incarceration in a state institution or internment in the cemetery. The disease is progressive whether or not the sedative addict is partaking of drugs. It is incurable; it is totally fatal; however,

like tuberculosis, it can be arrested.

Once a diagnosis of sedativism is made, it is mandatory that conscientious physicians, after exercising medical skill in detoxification, refer the patient to Alcoholics Anonymous, for here is the best chance offered today for arrest of the disease. The physician discharges his duty medically when he has his patient detoxified. He discharges his duty morally when he refers his patient to the only source of help known today, Alcoholics Anonymous. If the physician feels himself incompetent to deal with a toxic individual, or if he feels morally repulsed in any way, this is no disrespect to himself. On the other hand it is disrespect if he does not refer this type of sick individual to a physician who will accept the responsibility for the treatment. When a physician finds himself confronted with this truly painful problem for himself, his patient and his patient's family, Alcoholics Anonymous is readily available. One must remember that problems do not get a patient drunk; a patient cannot drink a problem. Alcohol and or sedatives intoxicate a patient; thus a patient must find happy sobriety day by day. He must live twenty-four hours at a time, and, in truth, live his day in "Day Tight Compartments." He must be willing to turn his will and his life over to a Higher Power in order to obtain and maintain sobriety.

The author has presented a description of multiple addiction described as sedativism. The author pleads that the reader give this disorder the dignity of the title DISEASE, and that he realizes that it is damaging, costly and fatal. Who is to say that it is not a disease? Who is to remove the dignity of the title, DISEASE? Does this not fit all criteria for many diseases and far more than most diseases that we now treat with dignity?

# FAMILIAL MULTIPLE POLYPOSIS

## SURGERY CORE

1972

RICHARD WAYNE HANNA\*

At present there are at least six genetically distinct varieties of hereditary polyposis of the gastrointestinal tract. And in each, the genetic and clinical characteristics are distinct.

They are:

1. Familial polyposis of the colon.
2. Occasional discrete polyps of the colon and rectum.
3. The Peutz-Jeghers Syndrome — generalized intestinal polyposis with melanin spots of the buccal mucosa, lips, and digits.
4. The Gardner Syndrome — colonic polyposis with osteomata, fibromata, and sebaceous cysts.
5. The Turcot Syndrome — colonic polyposis and brain tumor.
6. Multiple (endocrine) adenomatosis (embracing the Zollinger-Ellison Syndrome).

Familial Polyposis (Familial Multiple Polyposis) is a heredito-familial disease characterized by autosomal dominant inheritance, polyposis coli, and a marked tendency for the development of colon carcinoma. Failure to recognize this disorder in affected individuals and to evaluate all family members often results in tragic death from widespread colon malignancy.

### HEREDITARY FEATURES

Although Familial Polyposis is rare, it is the most common variety of polyposis. FMP follows a Mendelian dominant pattern of inheritance. Therefore, about one-half of the offspring of individuals with FMP will inherit the gene, regardless of the sex. Two independent studies in the United States have established an estimated incidence to be about one in 7000 to 8000 live births. Two-thirds of those affected have a positive family history, whereas one-third occur as sporadic cases. The penetrance of this gene is estimated to be about 80 per cent. Due to the high rate of mortality at an early age there is a loss of links in the transmission. It is also estimated that this loss is made up by gene mutation at a rate of two per 100,000 genes per generation.

### CLINICAL FEATURES

Unlike many hereditary conditions, these adenomatous polyps are not present at birth but develop later in life, usually around the age of puberty or early adulthood. However, FMP has been seen in a four-month-old infant and in an adult of 74 years. In general, it is rarely seen after 40 years of age. The onset of clinical symptoms usually occurs during the 20's and 30's, the average age being about 30 years. Thus, there is a latent period of months or years in which these polyps may exist without clinical manifestations.

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Some patients are entirely asymptomatic while some merely complain of vague abdominal pain. The most common complaint is bleeding, ranging from blood-tinged mucous to what may be considered massive hemorrhage. Other symptoms may include diarrhea, constipation, secondary anemia, weight loss, and even prolapse of a polyp through the rectum. It is said that many individuals with clinical symptomatology have an existing colonic carcinoma or develop a large bowel malignancy in 40 years.

### PATHOLOGY

The polyps are numerous and range in size from pin head lesions to one centimeter or more in size, and may be sessile or pedunculated. This adenomatous polyp does not seem to differ pathologically from the solitary polyp which occurs frequently in the adult. Generally, the rectum and descending colon are more commonly involved than the right colon, but yet often the entire colon is carpeted with a myriad of polyps. The involvement of stomach and small bowel is found in less than five per cent of patients with FMP. Multiple carcinomas in various stages of development are frequently discovered. The individual lesions of FMP are not thought to have a greater malignancy potential than the solitary polyp, but merely that the incidence of malignant transformation is due to a large number of polyps which multiplies their potential.

### DIAGNOSIS

Since almost all patients with FMP have rectal involvement, sigmoidoscopy is one of the most useful diagnostic tools for screening patients. Some authors report that all patients with FMP have some rectal involvement which can be detected by sigmoidoscopy. Polyps in cases of FMP have been known to evade digital as well as proctoscopic examination. Roentgenographic examination is not always helpful, while on barium enema examination polyps may be seen as numerous punctate nodules which render a serrated appearance to the colonic lumen. When car-

cinomas are present they appear as polypoid filling defects, segmental narrowing, annular lesions or fungating masses.

### TREATMENT

In view of the fact that the colon is a dispensable organ, colonic carcinoma is entirely preventable in patients with FMP when the disease is diagnosed early and prophylactic colectomy performed. Generally, surgery may be safely delayed until patients are in their late teens or early 20's.

Two forms of surgery are available:

1. Total colectomy with permanent ileostomy.
2. Fulguration of all rectal polyps followed by colectomy with preservation of the rectum and ileorectostomy.

It is generally agreed that total colectomy with permanent ileostomy should be limited to those cases in which carcinoma has already invaded the rectal segment or to those in which polyps are so numerous that fulguration is not feasible. All other cases should be treated by colectomy, preservation of the lower rectal segment and ileoproctostomy, preceded or followed by fulguration destruction of all polyps in the rectal segment. When the rectum is preserved, its length should not exceed 15 centimeters. Since preservation of the rectum involves an inherent risk of developing carcinoma, these patients should be followed by regular proctoscopic examination every three to four months with destruction of any new polyps.

Ileostomy in itself is not a purely innocuous situation and may exhibit complications which occur long after the initial recovery. Furthermore, the social disadvantage of ileostomy may be considered since many young people tend to risk subsequent recurrence rather than accept the annoyance of an ileostomy.

Since untreated patients with FMP invariably develop colon carcinoma, the need for early and accurate diagnosis and subsequent family screening cannot be overemphasized. FMP should be suspected in patients with more than one colon polyp



## FAMILIAL MULTIPLE POLYPOSIS

or individuals with colon carcinoma who are greater than 40 years of age. It must also be remembered that treated patients still maintain the ability to transmit the affected gene to their offspring.

The relationship between FMP and other polyposis coli syndromes, such as Gardner's Syndrome remains obscure. McKusick suggests that the genes causing FMP and Gardner's Syndrome may be alleles occurring on the same chromosomal

locus. On the other hand, Smith hypothesizes that FMP and Gardner's Syndrome represent opposite poles of the same disease spectrum caused by a single pleomorphic gene and varying expressivity.

### SUMMARY

Colon carcinoma, the invariable outcome in untreated patients with FMP is preventable by prophylactic colectomy. Thus, the need for early and accurate diagnosis cannot be overstressed.

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# CLINICOPATHOLOGICAL CONFERENCE OF THE MEDICAL UNIVERSITY OF SOUTH CAROLINA

## "RHEUMATIC-RHEUMATOID DISEASE OF THE HEART AND AORTA"

### DISCUSSION OF TWO CASES

CLINICIAN: C. P. SUMMERALL, III, M. D.  
RADIOLOGIST: F. H. GRUBER, M. D.  
PATHOLOGIST: H. R. PRATT-THOMAS, M. D.  
H. RAWLING PRATT-THOMAS, M. D., EDITOR  
JANE K. UPSHUR, M. D., ASSISTANT EDITOR

A 55-year-old farmer was admitted to the Medical University Hospital on February 23, 1970 because of persistent, severe dyspnea for three nights. These dyspneic attacks were accompanied by slight hemoptysis. His illness had begun in October 1969 when he had an acute episode of dyspnea. He was admitted to a local hospital and remained there for 21 days. Although he denied having any chest pain on his admission to the Medical University Hospital, review of his previous hospital record showed that he did complain of chest pain and in addition he had an "indigestion-like" feeling in the substernal area prior to the pain. The patient was not aware whether this substernal discomfort occurred with or without exertion. After his discharge from the hospital in October he continued to have dyspnea on exertion with attacks of paroxysmal nocturnal dyspnea and about February 1 he also had anorexia, nausea and weakness in addition to his respiratory difficulties.

Past history revealed that he had had hypertension for several years, possibly as long as ten. He was not aware that he had ever had rheumatic fever and denied having a heart murmur. About a year previously he began to have cramps in his legs on exertion, particularly on the right, and was told that he had peripheral arterial insufficiency. He began to ingest

alcohol at that time because of severe leg pain. He had had various operative procedures including hernia repairs and an appendectomy. He had a renal infection in 1968. Clinically he was said to have rheumatoid arthritis with rheumatoid spondylitis, confirmed by a "RA test" in 1969.

Physical examination revealed that he was lethargic with Cheyne-Stokes respirations. The pupils were equal. The neck veins pulsated up to the angle of the jaw in the 45° position. He was judged to have pulmonary emphysema with a very broad chest. The PMI was palpable in the fifth intercostal space to the left of the mid-clavicular line. The carotid pulses were pulsus bisferiens in character. The cardiac rhythm was regular. There was a Grade III/IV harsh ejection aortic systolic murmur and also a Grade III/IV decrescendo diastolic murmur of aortic insufficiency best heard along the left sternal border at about the fourth intercostal space. Also in this area a very loud S-4 gallop sound was present probably due to a prolonged PR interval. At the apex the first heart sound was not prominent and there was a high pitched Grade II/IV systolic murmur and a low pitched rumbling diastolic murmur without presystolic accentuation. Moist basilar rales were present bilaterally. The liver was palpable two finger breadths below the right costal

margin. There was no edema of the extremities. Only the femoral pulsations were present and the left was much more prominent than the right. Blood pressure was 110/40 in both arms.

Urinalysis showed a specific gravity of 1.021 with 1+ albuminuria. The hemoglobin was 10.5 gm with 4 million erythrocytes and a leukocyte count of 19,200 with 86 per cent neutrophils. The VPC was 31.5 vol. per cent. The corrected sedimentation rate was 28. The blood urea nitrogen was 33 on one occasion and when repeated 26 mgs per 100 ml. Serum bilirubin was 0.8 mg per cent, direct 0.6, delayed 0.2. Serum electrolytes showed the following values: chlorides 97 m/q, sodium 139, CO<sub>2</sub> combining power 29 and potassium 3.4. Protein bound iodine was recorded as 6.4. The glutamic oxalacetic transaminase was over 300 and the lactic dehydrogenase 2,410. Uric acid was 20.4 mg per cent with a serum alkaline phosphatase of 8.7 King-Armstrong units. A two hour postprandial blood sugar was 132 mg per cent. A urine culture showed 250,000 bacterial cells with 50 per cent enterococcus, 5 per cent *Staphylococcus aureus* and 45 per cent *Klebsiella*. Cholesterol was 178 mg per cent with total lipids of 720 mg per cent. ASO titer was 1:20 with C-reactive protein of 2 mms. The latex fixation test was negative. VDRL was non-reactive. The serum proteins showed a low level of albumin.

Chest films showed cardiomegaly with pulmonary edema as well as left ventricular hypertrophy. The electrocardiogram showed marked first degree A-V block, left ventricular hypertrophy and digitalis effect as well as complete left bundle branch versus old anteroseptal infarction. Chest films and EKG's are available.

Throughout the patient's hospital course he was very lethargic, had frequent loose stools and remained in almost constant heart failure, primarily left sided. He complained of intermittent pain in the left chest about the fourth rib in the mid-clavicular line with radiation to the left

shoulder. He expired suddenly on March 2, 1970.

*Dr. Summerall*: I would like Dr. Gruber to show us the x-ray films of the chest.

*Dr. Gruber*: The first film showed an air-space opacification, this ground-glass, fluffy, ill-defined increase in density being typical. The heart is enlarged, the shape being that of left ventricular hypertrophy. The vasculature is accentuated so that the appearance is that of congestive failure with pulmonary edema. Three days later there is clearing of the pulmonary edema revealing more detail so that we can see the straight perpendicular line through the lung bases, which are called Curlee's lines and represent congested lymphatics between the pulmonary lobules. On the third film, about a week later, the congestion has improved but a left pleural effusion has developed. This occurrence in the face of improvement of his congestive failure would alert me to warn the clinician that a pulmonary infarct or pneumonia may have developed.

*Dr. Summerall*: Thank you. Does the aortic knob appear accentuated?

*Dr. Gruber*: The aortic knob is normal for a patient this age. There is no evidence of dissection. The best indication of a dissecting aneurysm is increasing size of the aortic arch on successive films. That would be very suspicious.

*Dr. Summerall*: How sensitive are the radiographic criteria of dissecting aneurysm? How often do we get false negatives?

*Dr. Gruber*: Infrequently. A sign was once described that proved very misleading. This was that calcification set in from the margin of the aortic arch was a sign of dissection. Of course such calcium may lie anterior and appear separated from the lateral aortic margin. That is not a sign of dissection, but if comparison of films shows that calcification moves this is very significant. We may, with a particularly large aortic arch, suggest on the first film the possibility of a dissecting aneurysm and this may not turn out to be



so. I don't consider this an error. We have alerted the clinician and it is up to him to eliminate this possibility. On the other hand, if we have an enlarging aortic arch this usually turns out to be a dissecting aneurysm.

*Dr. Summerall:* What about the patients who do in fact have a dissecting aneurysm and on x-ray examination, perhaps just limited to the P-A view of the chest, their aortic arch appears normal?

*Dr. Gruber:* This occurs, but is unusual.

*Dr. Summerall:* I have to conclude in spite of the x-ray evidence against it that this man had a chronic dissecting aneurysm. This man's congestive heart failure was certainly overt. He had marked distention of his neck veins, cardiomegaly, and x-ray changes of marked pulmonary congestion and edema on admission. The congestive heart failure alone may explain his anorexia, nausea and diarrhea; it may even explain the hypoalbuminemia, so we can very rapidly move to the second problem, namely the aortic valvular disease. He had an ejection murmur which we cannot equate with aortic stenosis. Many diseases of the aortic orifice can cause very loud ejection murmurs including severe aortic insufficiency due to the increased stroke volume which represents both atrial volume and aortic regurgitant volume. He has a pulsus bisferiens suggesting a combination of aortic stenosis and insufficiency. He did have quite marked left ventricular hypertrophy by the EKG. There is an interventricular conduction delay with a marked increase in PRS voltage in precordial lead V3. This voltage reaches a 50 mm deflection in the S-wave. Now at times when we find a marked systolic overload pattern of left ventricular hypertrophy on the electrocardiogram and the x-ray shows a relatively normal sized ventricle there is an implication that the patient has aortic stenosis. Very often concentric hypertrophy due to aortic stenosis does not present a prominent enlargement of the left ventricle by x-ray examination. However

the real clue is the blood pressure of 110/40. I think that the implication is that by far the predominant component of his aortic valve lesion was insufficiency. We get a little help from the fact that he had a negative VDRL. I am not too impressed with the role that rheumatoid spondylitis may have played. It would be quite unusual for aortic insufficiency associated with rheumatoid spondylitis to pursue so malignant a course as this man's disease did.

Our third problem is the question of mitral valve disease. He is described as having a Grade II apical systolic murmur. We don't know whether it is the pan-systolic murmur of mitral insufficiency or whether it is transmission of the aortic systolic murmur down to the cardiac apex. We are also told that he had a rumbling diastolic murmur without pre-systolic accentuation. Now in the presence of a long PR interval which on this man's initial EKG was .36 of a second we would not expect presystolic accentuation of a diastolic murmur even if he did have mitral stenosis. Of course it is easy to explain both of these murmurs on the basis of his aortic valve disease with radiation of the systolic murmur to the apex producing an Austin-Flint murmur. We next have the question of coronary artery disease. The fact that this man is 55 years old and an American puts him into the category of a coronary disease suspect. We don't know much about the pattern of his chest pain. We can look at his risk factors and by rather broad use of the imagination we can at least suspect that he had type IV hyperlipoproteinemia. He did have a history of hypertension. On the other hand we don't have any strong clinical reason to suspect symptomatic coronary disease.

The next question concerns digitalis intoxication. We don't know what preparation of digitalis this man was taking. If he was on digoxin he might well have accumulated toxic serum levels, particularly with some degree of renal impair-

ment which he had. Digitalis intoxication might contribute to his first degree A-V block and also produce anorrhexia, nausea and diarrhea. His peripheral vascular disease poses an etiologic problem. He was a farmer, but we don't know anything about his degree of activity. He does have occlusive peripheral disease in the legs. This could be a reflection of a dissecting aneurysm or may simply represent unrelated arteriosclerotic impairment of his peripheral circulation. Impairment of his liver function can be placed totally at the door of the congestive failure, with hepatic necrosis although it is a little unusual for the SGOT to exceed 300 units. In a series of a 170 patients in chronic congestive heart failure 5 of them were found to have SGOT levels above 200 and actually a third of them had abnormal SGOT levels. The same thing can be said about the albumin level. There is a loss of albumin in the gut due to chronic passive congestion. There is no failure of synthesis in the liver, just mucosal loss in the intestine.

In conclusion my primary concern is the size of the aortic valve. In spite of Dr. Gruber's defense of the radiologic diagnosis of dissecting aneurysm, the radiologic findings are often not very sensitive to the presence of a dissecting aortic aneurysm especially if the dissection is limited to the root of the aorta. The hypertension recorded in his history would certainly facilitate aortic dissection. A dissecting aneurysm would certainly distort the aortic annulus and the insertions of the aortic valve and lead to severe aortic insufficiency with left ventricular and then right ventricular failure which would account for the abnormal hepatic and renal function. The ostia or coronary vessels themselves are frequently compromised by the dissection which could produce a sudden terminal cardiac arrhythmia. Most people with chronic dissecting aneurysm die of congestive heart failure as opposed to the mode of death in acute dissecting aneurysm which is usually

aortic rupture. The appearance of the pleural effusion by x-ray does raise the question about the possibility that this man was bleeding into the left pleural space and that his terminal episode might have been rupture into the pericardium.

*Question:* The patient was anemic and had a leucocytosis. Was there a blood culture?

*Dr. Summerall:* We have no indication of a blood culture being performed. This is an important consideration. In the interest of time, I haven't fully explored the differential possibilities producing what I consider the syndrome of sudden severe aortic insufficiency. By far the most prominent cause of such a syndrome is infectious endocarditis. None of the stigmata of this disease is described in the protocol. Another large group are concerned with a loss of the supportive integrity in the aortic annulus due to various forms of aortitis, dissecting aneurysm, and such entities as Marfan's disease, a group generally classified as aortectasia.

*Question:* Cannot rheumatoid spondylitis be associated with aortitis and aortic insufficiency?

*Dr. Summerall:* Yes. However, I am not impressed with the severity of his arthritis and am very impressed with the virtually fulminant course of his aortic insufficiency. I think this would be most unusual as a complication of rheumatoid arthritis.

*Dr. Summerall's Diagnosis:* Chronic aortic dissecting aneurysm with aortic insufficiency.

*Dr. Pratt-Thomas:* Hart<sup>1</sup> in a memorial lecture in 1969 asked the question: "Is there such a thing as rheumatoid heart disease?" He stated that in broad terms the answer is clinically yes, but it is rare; histologically, yes and not so rare. He was making the point that clinically apparent cardiac disability in rheumatoid arthritis was unusual, but that incidental histologic involvement of the heart was much more frequent. In this case the clinical and histological effects of rheumatoid



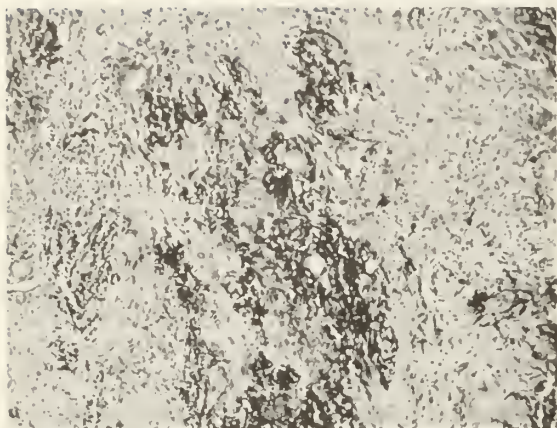


Figure 1. Extensive destruction and scarring of aortic valve ring leaving isolated islands of elastica (black fibrillar material). Verhoeff-van Giesen X 125.

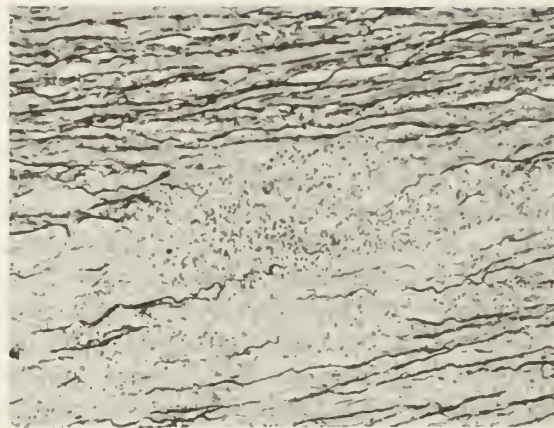


Figure 2. Destruction of musculo-elastic lamellae aortic media with infiltration of neutrophils and histiocytes. Verhoeff-van Giesen X 125.

disease on the heart are overt.

The Anatomical Diagnoses are:

- (1) Rheumatoid panaortitis with aortic valvulitis and insufficiency.
- (2) Severe coronary atherosclerosis (75 - 90 per cent occlusion).
- (3) Acute subendocardial infarction of myocardium with multiple small, small, old and healing infarcts.
- (4) Left ventricular hypertrophy (580 gm).
- (5) Adhesive and acute fibrinous pericarditis.

Nothing was known about the man ever having had rheumatoid arthritis or spondylitis while in the hospital. The nature of his disease was revealed at the time of autopsy only when microscopic sections were examined. The referring physician was contacted and he confirmed that the patient did indeed have rheumatoid arthritis and that he had treated him for this disease. The severity of the patient's cardiac disability apparently distracted everyone from all other considerations.

At autopsy the heart was twice the normal size, weighing 580 gm. The aortic valve was insufficient with thickened, leathery leaflets. There was a 8 mm space between the valve cusps of the unopened aortic valve when viewed from above. The degree of coronary atherosclerosis was

spectacular with focal narrowing of the right coronary up to 90 per cent and such severe narrowing of the anterior descending branch of the left coronary artery as to appear completely occluded to the naked eye. There was a diffuse mottling of the left ventricular and septal myocardium particularly in the subendocardial region, representing acute myocardial infarction. There was an adhesive and fibrinous pericarditis. The fibrinous component was probably related to the recent infarction as some of the necrotic areas could have extended to the surface. The adhesive element brings up the possibility that the same process causing his panaortitis also produced pericarditis as such involvement

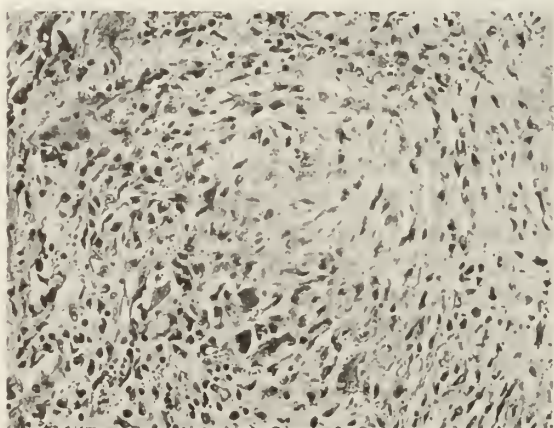


Figure 3. Nodular area of fibrinoid necrosis in wall of aorta with associated histiocytic response. Hematoxylin and Eosin X 250.



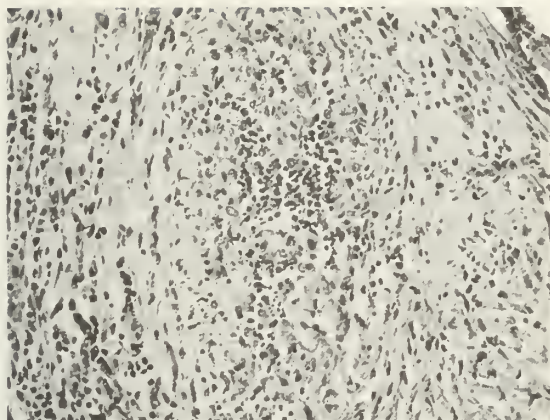


Figure 4. Microabscess in wall of aorta. Neutrophils are clustered in center with histiocytes surrounding them. Hematoxylin and Eosin X 250.

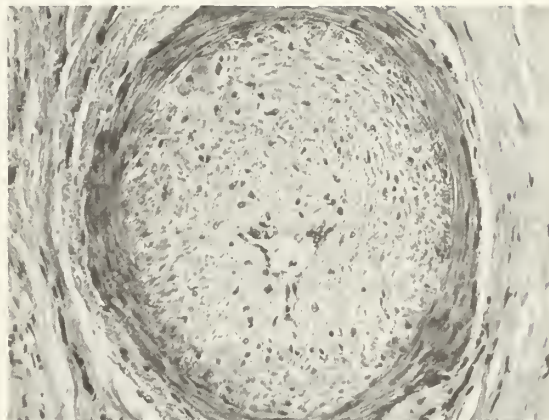


Figure 5. Obliterative endarteritis of vasa vasorum. Note singular absence of any perivascular inflammatory infiltrate. Hematoxylin and Eosin X 250.

has been adequately documented in the rheumatoid state.

The aortic valve and its annulus together with the first portion of the ascending aorta showed marked disintegration of elastic tissue with profound scarring and disruption of the normal architecture (Figures 1 and 2). Areas of fibrinoid necrosis, often nodular and swirling in contour, were conspicuous (Figure 3). Such areas were accompanied by a fibroblastic and histiocytic response, the participating cells of the latter frequently being multinucleated. Microabscesses, with neutrophils forming the central core, and histiocytes the peripheral rim were con-

spicuous in the media and intima of the aortic wall (Figure 4). A spectacular endarteritis was present in the vasa vasorum (Figure 5). There was a striking lack of any accompanying perivascular plasma cell infiltrate, as would be expected in syphilis.

Mallory<sup>2</sup> is credited with the description of the first two cases of that distinctive form of aortitis and aortic insufficiency which occur in rheumatoid disease. Bauer, Clark and Kulka<sup>3</sup> first drew attention to the peculiar association of aortitis with rheumatoid spondylitis in 1951. My first experience with this entity occurred in 1947 when together with two of my associates I extensively studied a case of rheumatoid spondylitis with aortic insufficiency.<sup>4</sup> This case concerned a 44 year old white man who developed an increasingly stiff and painful back over a period of ten years and eventually succumbed to intractable heart failure. At the time of death the lumbar, thoracic, and cervical vertebrae were so fixed and rigid that all spinal movement was impossible. The severe, fixed kyphosis prevented the body from lying flat on the necropsy table.

The heart weighed 850 gm and was otherwise unremarkable except for the state of the aortic valve whose cusps were thickened with rolled edges and wide separation of the valvular insertions. The

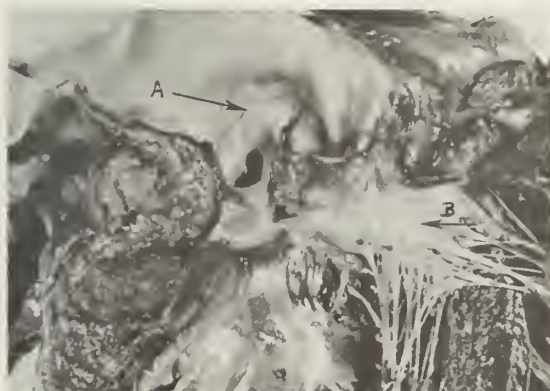


Figure 6. Aortic valve and ascending aorta showing profound distortion and insufficiency of valve with aneurysmal dilatation of aorta sinuses (A); Marked thickening of mitral valve (B). Case of 44 year old man with rheumatoid spondylitis, rheumatoid pan-aortitis and rheumatic carditis.

aorta showed aneurysmal outpouching of the aortic sinuses with intimal thickening and wrinkling (Figure 6). The aortic cusp of the mitral valve was also thickened as were the chordae. The aortic valve ring was markedly thickened and indurated.

Histologic changes were in part identical with those present in this conference case, namely extensive destruction of elastic tissue, fibrinoid necrosis with formation of rheumatoid nodules as well as nodular scars in aorta, valve and ring. Microabscesses and endarteritis were also in evidence. These changes were also present to a lesser extent in the pulmonary valve ring. Now the component of this case which was decidedly different from the current one was described in the original protocol as follows: "Within the sub-endocardial tissues and in the fibrous tissue septa, notably about blood vessels, were many Aschoff nodules. These were often associated with fibrinoid necrosis and were in various stages of development, many active, some healing and others in a state of complete fibrous replacement."

Rheumatic fever and rheumatoid arthritis have been regarded as separate diseases for at least three centuries. In 1880 Jonathan Hutchinson<sup>6</sup> suggested that some cases of rheumatoid arthritis originate in rheumatic fever. Following this suggestion, the idea that the two diseases

might have some etiological factor or factors in common or might be variants of the same pathological process became more widespread. However, this unitary theory fell into disrepute and received little attention until the last three decades. Dawson and Tyson<sup>6</sup> thoroughly discussed the evolution of the modern concept of the relationship of the two diseases.

A number of recent papers<sup>7-11</sup> have emphasized certain aspects that the two diseases have in common and have suggested that they may possibly be different manifestations of the same fundamental pathologic process.

Baggenstoss and Rosenberg<sup>7</sup> found rheumatic cardiac disease in 16 (53%) of 30 patients with rheumatoid arthritis.

The cases presented today encompass the cardiac manifestations of the rheumatic-rheumatoid group of diseases. In the first relatively minimal clinical rheumatoid arthritis produced a severe aortitis, involving all coats of the ascending aorta as well as the aortic valve ring with resulting valvular insufficiency. In the second an incapacitating rheumatoid spondylitis progressing over a period of ten years eventuated in a devastating aortitis and aortic valvular insufficiency. This was further complicated by an extensive active chronic rheumatic carditis, an event which strongly suggests that rheumatoid arthritis and rheumatic fever are in some manner closely related conditions.

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# THYROID CRISIS:

## A CASE REPORT AND CURRENT TREATMENT

GEORGE DUNCAN, B.A.\* AND  
DOUGLAS JONES, M.D.\*\*

Thyroid storm or crisis is an acute augmentation of the manifestations of thyrotoxicosis. It is associated with fever, marked tachycardia, and exacerbation of disturbed CNS function. While uncommon, it is a life-threatening medical emergency. Several excellent review articles on thyroid crisis with emphasis on treatment have appeared in the literature in recent years.<sup>1,2,3</sup> As Table I indicates, thyroid crisis was almost invariably fatal until the 1940's. The addition of, first, the thioureas, then later, adrenergic blocking agents and cortisteroids to the treatment regimen has been accompanied by a progressive decrease in the mortality rate. Utilizing these advances in therapy, Mazzaferri and Skillman<sup>2</sup> reported a 93 per cent survival rate over a ten-year period. Dillon et al.<sup>4</sup> at Georgetown reported 100 per cent survival in eight episodes of thyroid storm using high doses of intramuscular reserpine alone. No large series on the beta adrenergic blocker propranolol has yet been published.

A recent case of thyroid crisis is described.

### CASE REPORT

A 30-year-old black male, in excellent health prior to his present illness, was admitted to Charleston Veterans Administration Hospital with a history of 40-45 lb. weight loss over the past few months. During the month prior to admission, he had also noticed a gradual increase in nervousness, tremulousness, difficulty sleeping, sweating, and frequent hoarseness. His hair had

become silky and smooth and was falling out. He denied neck swelling, heat intolerance, change in bowel habits, or fever. He also denied palpitations, dyspnea, orthopnea, or dizziness.

Physical examination revealed a thin, tremulous, hyperactive male who was alert and oriented. His pulse was 135 and regular, blood pressure 120/60, and temperature 98.6. The thyroid was diffusely enlarged approximately three times normal. The pyramidal lobe was palpable, and a systolic bruit was heard over both lobes. The eyes were prominent with stare, but exophthalmos was very slight or absent. There was no lid lag. Tongue tremor was present. There was a grade II/VI early systolic murmur along the left sternal border and a mild left ventricular lift. The lungs were clear to auscultation and percussion, and the liver was not palpable. There was no edema. There was mild bilateral muscle weakness of extremities. Deep tendon reflexes were hyperactive and symmetrical. The skin was smooth with fine silky hair and evidence of hair loss about forehead and temples. A few movable anterior cervical lymph nodes were palpable and some shotty posterior cervical and inguinal nodes were also palpable.

Admission hemoglobin was 12.4, hematocrit 36, WBC 7900; electrolytes, BUN, and glucose were normal. ECG revealed sinus tachycardia with early repolarization. Chest x-ray film was normal. The T<sub>3</sub> resin uptake was 47% (normal 25-35), and T<sub>4</sub> was 17.2 ug% (normal 5.4-13.0). A thyroid scan showed diffuse thyromegaly with a 24-hour RAI uptake of 83%. The patient was started on 20 mg propranolol (Inderal) q 6 hr the day after admission. He remained afebrile and his pulse fluctuated between 85-125. Six days post admission, he received a therapeutic dose of 6 millicuries of I<sup>131</sup>.

Four nights later his temperature spiked reaching a high of 104 F. His pulse rate was 138. Exacerbation of nervousness, restlessness, tremor, sweating, and stare were noted. Intravenous fluids and aspirin were begun; propranolol was increased to 40 mg q 6 hr.; methimazole (Tapazole) 20 mg q 6 hr was started; and 500 mg NaI was added to the IV bottle. As the symptoms and

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# THYROID CRISIS

Table I — Review of Literature\*

Author	Year	Iodides	Thioureas	Steroids or Corticotropin	Reserpine	Guaneth- idine	No. of Cases	No. of Deaths	Percent Died
Bayley <sup>6</sup>	1934	+					51	51#	100
Ransom and Bayley <sup>6</sup>	1934	+					37	37#	100
Maddock et al. <sup>7</sup>	1937	+					88	88#	100
Bansi <sup>8</sup>	1939	+					32	25	78
MacArthur et al. <sup>9</sup>	1947	+					36	24	67
Rives and Shepard <sup>10</sup>	1951	+	+				25	10	40
Waldstein et al. <sup>1</sup>	1959	+	+	+	+		21	6	28
Mazzaferri & Skillman <sup>2</sup>	1969	+	+	+	+	+	22	4	18

\*Adopted from Mazzaferri and Skillman.<sup>2</sup>

#Only deaths reported.

signs persisted the next morning along with a temperature of 102, the propranolol was increased first to 40 mg q 4 hr and then to 60 mg q 4 hr. That afternoon 500 mg NaI was again given, and hydrocortisone 100 mg IM q 6 hr was instituted.

During the next two days the patient rapidly improved. Steroids and intravenous fluids were discontinued. Propranolol and methimazole were decreased to doses of 20 mg q 6 hr and 15 mg q 6 hr respectively over the next four days. The remainder of the hospital course was uncomplicated, and he was discharged on the above medications clinically euthyroid 27 days after admission. He has remained clinically euthyroid at monthly clinic visits three months after discharge. At two months he had a T<sub>3</sub> resin uptake of 23% (normal 25-35) and T<sub>4</sub> 12 ug% (normal 5.4-13.0). His only medication now is Tapazole 10 mg b.i.d.

For years the majority of thyroid crises reportedly occurred following thyroid surgery. In recent years it has occurred more commonly in a medical setting such as infection, complications of pregnancy, diabetic or hypoglycemic emergencies, or following non-thyroid surgery or other trauma. The reduction in post-thyroidectomy storm has been attributed mainly to improved surgical techniques and preparation with antithyroid and antiadrenergic drugs. An interesting sidelight of our case is that it occurred four days following RAI therapy and several hours following vigorous palpation of the gland. Although these factors have rarely been mentioned as possible precipitating events, we found several reports in the

literature of thyroid crisis following RAI therapy<sup>11-16</sup> and one case attributed to excess palpation of the gland.<sup>1</sup>

The pathophysiology of thyroid storm is not well understood. A logical explanation would be that the levels of circulating thyroid hormone(s) are suddenly elevated; however this has not been well documented. In fact, few reports exist with thyroid function tests performed prior to and during thyroid storm. Other possible mechanisms contributing to the manifestations of thyroid storm include increased levels of circulating catecholamines or increased responsiveness of tissues to catecholamines. Both these possibilities have been disputed. The understanding of the pathophysiology would certainly have important therapeutic ramifications. In this regard Levy and Epstein<sup>17</sup> recently reported that tachycardia and increased myocardial contractility of hyperthyroidism are partially but not completely corrected by beta blocking agents and that two separate adenylyl cyclase systems exist in the heart—one influenced by beta blockers and stimulated by norepinephrine while the other is not affected by these agents but is activated by thyroxine.

It appears that definitive treatment of thyroid crisis might entail lowering the circulating levels of thyroid hormone(s). Ashkar et al.<sup>18</sup> recently did this in three patients in storm. Using blood exchange in one

## THYROID CRISIS

patient and plasmapheresis with reinfusion of cells in the other two, they obtained good clinical results as well. But these methods are not widely used at present. The idea of using sympatholytic drugs to treat thyrotoxicosis grew out of studies of Brewster et al.,<sup>19</sup> who showed that sympathetic activity was enhanced in this disease. It was noted in one study<sup>20</sup> that, although propranolol was effective in reversing the clinical manifestations of thyroid crisis, the PBI was not lowered in 7 of 17 patients. Antiadrenergic drugs have been used with increasing frequency since 1957. Reserpine and guanethidine (Ismelin) were first used<sup>2,3,4,21</sup> and were shown to be effective in alleviating tachycardia, tremor, tachypnea sweating, and fever.<sup>4,21,22,23,24</sup> Propranolol is now emerging as the antiadrenergic drug of choice in treating thyroid crisis. It was shown to improve the cardiovascular manifestations of hyperthyroidism as early as 1965 and soon was used in clinical trials with resultant improvement in nervousness, restlessness, palpitations, tachycardia, tremor, sweating, and lid lag.<sup>25,26,27</sup> Wiener et al.<sup>28</sup> showed that propranolol improves the chronotropic and inotropic effects and presumably reduces the exaggerated myocardial oxygen requirements of thyrotoxicosis with improvement of myocardial efficiency. A 1971 study by Grossman et al.<sup>29</sup> showed that sotalol, a beta blocker without the nerve and muscle depressant properties of propranolol, produced similar therapeutic results, supporting beta blockade as the mechanism for clinical efficacy. Buckle (1968)<sup>20</sup> obtained dramatic results in two patients in thyroid crisis, who had failed to respond to conventional therapy. He used pronethalol 150 mg orally q 6 hr in one case and propranolol 20 mg q 3 hr then 40 mg q 3 hr in the other patient. Das and Krieger<sup>30</sup> had a similar experience using intravenous propranolol 2 mg and oral propranolol 20 mg in a patient in thyroid crisis unresponsive to previous management including reserpine. After intravenous propranolol, the patient's ventricular rate dropped from 220 to 110 in just ten minutes. When an attempt was

made to withdraw the oral propranolol 3 weeks later, tachycardia and nervousness returned but again were alleviated with reinitiation of propranolol. Practolol, a recently developed beta-adrenergic blocker, has been reported by Epstein and Pimstone<sup>31</sup> to be useful in conjunction with digitalis and diuretics in six patients with thyrocardiac failure who had been refractory to previous therapy. This drug, however, is not yet on the market. The dosage of propranolol in thyroid storm merits discussion. Besides those dosages quoted above, Vinik, Pimstone et al.<sup>25</sup> reported the dosages required to reduce the pulse rate to 85 per minute in 30 hyperthyroid patients. They started with 40 mg q 8 hr and were successful in 20 cases. Eight other patients required a dose increase to 80 mg q 8 hr, and the remaining two responded to 120 mg q 8 hr. Shanks, Hadden et al.<sup>27</sup> used 40 mg q 6 hr in their controlled, double-blind study of 16 hyperthyroid subjects.

At the present time the most often used therapeutic approach to thyroid crisis is as follows:

1. Make the diagnosis on the basis of hyperthyroidism plus acute hyperpyrexia, marked tachycardia, and increased CNS disturbances.
2. Place patient in private room to avoid excess noise and other excitatory stimuli.
3. Control hyperthermia.
4. Correction of fluid and electrolyte balance (Patient usually is dehydrated).
5. Evaluation for precipitating factors, e.g. infection, trauma, diabetic or hypoglycemic emergencies.
6. Antiadrenergic drugs — one of the following:
  - a. propranolol 1-5 mg. intravenously q 1-2 hrs and/or 40-80 mg orally q 4 hr.
  - b. reserpine intramuscularly 0.1-0.3 mg/kg/24 hrs. (i.e., 3-15 mg).
7. Antithyroid drugs — propylthiouracil 150-250 mg q 4-6 hrs or methimazole 10-20 mg q 4-6 hrs orally. (use naso-



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gastric tube if necessary).

8. Sodium iodide 500 mg slow intravenous q 8 hrs. Wait one hour after first dose of antithyroid drug. Sodium and potassium iodides are also available orally.
9. Corticosteroids — hydrocortisone intravenously or intramuscularly 300-600 mg/day or its equivalent.

Reserpine has several side effects such as depression nasal congestion increased gastric

acidity and diarrhea. Guanethidine not uncommonly produces symptomatic hypotension. Propranolol is generally contraindicated in patients with history of congestive heart failure (questionably in those with thyrocardiac failure) and in those with bronchial asthma. It is presently the antiadrenergic drug of choice in other patients because of its rapid onset of action and its paucity of side effects.

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# JOHN WARING PARKER, M. D.

## FIRST MEDICAL SUPERINTENDENT—SOUTH CAROLINA STATE HOSPITAL\*

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Whatever may have been the traumatic experiences in getting opened and operating an institution such as was the State of South Carolina's first mental institution—the "South Carolina Lunatic Asylum"—only the imagination can supply.

History presents us only with a series of dates and a list of names to explain the first professional and administrative efforts. To telescope events, funds were first appropriated in December 1821 in the amount of \$30,000, to begin construction; some four acres of land at the corner of Bull and Calhoun Streets were purchased; the noted architect Robert Mills was retained and created the plans; the cornerstone was put in place July 22, 1822, and on December 18, 1827 the building was completed—the historic Mills building.

That hardly portrays the drama of the story of what is now the South Carolina State Hospital—the third in the nation to open its doors for the treatment of the mentally ill—but the foregoing will background us.

One year passed before the first patient was admitted. That came on December 12, 1828 and records tell us the young lady's mother remained to care for her as "The Asylum's" first matron.

Obviously the commission charged with governing the operation of the new in-

stitution was not without personnel problems. There are indications that the medical profession at that time did not fully support the institution. It is a fact that one year elapsed between the time of the building's completion and the time the first patient was admitted. And admissions after that were for a time very skimpy.

But then we arrive at the year 1836 and from the minutes of the meeting of the Board of Regents on that date we are introduced to the name of John Waring Parker, M.D. of the Abbeville District. Dr. Parker was under consideration for appointment as the first medical superintendent of the institution.

Dr. Parker, at 34 years of age, took the position on January 1, 1837 and thus began an illustrious career in both medicine and administration that spanned 33 years. The State Hospital was his life—and he gave it his life.

From the minutes of that meeting in 1836 there is a testimonial in his behalf from the then governor-elect of South Carolina, Patrick Noble, who wrote: "Long acquaintance with Dr. Parker warrants my cordial testimony in favor of his fitness for such a place. He is a gentleman of intelligence, probity of character and amiability of disposition—he is regarded as a skillful physician—I feel assured he will not disappoint the confidence that may be reposed in him."

The Abbeville Medical Society, through

\* Presented to the Columbia Medical Club by William S. Hall, M.D., South Carolina State Commissioner of Mental Health, on May 22, 1972

the secretary, Dr. Joseph I. Wardlaw, presented a testimonial as to Dr. Parker's excellent judgment as a physician, and his general intelligence as a man personally known and appreciated by many of the members of the society. It was also stated that the humanity and benevolence of his feelings combined with a proper energy and decision of character should at least secure due consideration of Dr. Parker's claims as a candidate.

From many sources knowledge was gleaned indicating that Dr. Parker's administration largely contributed to the reputation of the hospital as one of the best conducted mental institutions; and further that the kindly, friendly relations with those in his care and their families all over the southern states made him as honored and beloved as he was widely known.

#### EARLY HISTORY OF DR. PARKER

Dr. Parker was born January 24, 1803 at Beach Hill, Edgefield District, South Carolina, the son of George and Elizabeth Waring Parker, who were married in the Circular Church, Charleston, S. C. in 1793.

His maternal grandfather was John Beamor Waring. John Beamor Waring was the son of Richard Waring and Florence Morton, and the grandson of Benjamin Waring who arrived in Carolina from England in the year 1670.

Dr. Parker's maternal grandmother, Charlotte Mazyck, was the daughter of Benjamin Mazyck and Damaris Ravenel and the granddaughter of the Huguenot emigrant Issac Mazyck.

Thus it will be seen that Dr. Parker was of combined English and French descent. His early life was spent in the Edgefield District during which he received such education as the academy of that day afforded. When quite a youth he went to Charleston and engaged in mercantile and counting house pursuits.

Interest in medicine prompted him to attend lectures in the Charleston Medical

College, and then to attend the Philadelphia Medical School in Philadelphia where he secured the degree of Doctor of Medicine.

Following graduation, his profession was practiced in Spartanburg, S. C. for one year; then for a number of years he was a successful physician in the Calhoun Settlement of the S. C. Abbeville District. During his residence in the Abbeville District, he married Catherine Duvall Calhoun, Daughter of Ezekiel and Frances Hamilton Calhoun and the granddaughter of Major Andrew Hamilton of Revolutionary fame.

When Dr. Parker assumed his new duties at the "Asylum", there was already on the staff Dr. Daniel H. Trezevant who had been the visiting physician since January 1835. Dr. Trezevant was recognized by later students of the care of the mentally ill as a physician far in advance of his time.

These two competent professional men served in the institution in harmony during 18 out of 19 years they were associated together. Records show that much was accomplished in the period of their association — the institution obtained competence and stature. It was accepted during the tenure of these two physicians.

As has been pointed out, prior to Dr. Parker's regime, the mental institution was not supported by the medical profession. Neither was it readily accepted by the citizens. It was regarded as an experiment — a compassionate gesture — but still an experiment. Advertisements in local, state and out-of-state newspapers of that period testify to the efforts which were made to offer the facility for patients and place it in full operation.

General acceptance was not the only problem; funding was still another. On completion of the Mills Building, money was not available to properly furnish and equip it and the Board of Regents were never given the power to do for the patients what was required or desired.



In 1831, because of lack of funds to maintain the asylum, the Regents were on the verge of resigning when Gov. James Hamilton appropriated \$654 from his own contingency fund to meet emergencies. It was such an on-again, off-again situation which faced Dr. Parker when he arrived on the scene in 1837.

Dr. Parker diligently applied himself to his new duties. The records indicate that while he was about the task of bringing order to chaos, of giving direction and leadership to the institution and formulation of a treatment program, he also astutely analyzed the situation and identified the problems.

Among the observations noted were the following; Northern mental institutions were in many respects superior; they possessed more capabilities for making arrangements for the protection of the mentally ill; they had the power to select proper attendants; and the communities generally were acquainted with the conduct of the hospital. Obviously, his urgings prompted the regents to realize the institution was entitled to respect and public confidence and therefore they began to put forth efforts to remove all material objections which were present.

During the 20-year span from 1837 to 1857 (Dr. Parker's era), the patient population increased from 42 to 182 and the plea of the asylum changed from seeking patients to fill the beds to begging for beds and space to properly house the patients. The over-crowding brought about the addition of three wings in 1838, 1842 and 1848 to the original Mills structure. Relief was temporary and Dr. Parker and the Regents began the consideration of acquiring additional land. Purchase of nearby property to the east and the closing of Pickens and Henderson streets at Lumber or Calhoun street to the south increased the campus size to about 55 acres. Adjacent land was rented on which the patients engaged in farming and gardening.

As could be expected, the question of expansion on the existing site and the acquisition of more land area, or the complete relocation to a country site away from the steadily growing city of Columbia had its pros and cons and this unfortunately lead to the separation from the institution of Dr. Trezevant.

Dr. Parker at first favored such a move to the country and this opinion was shared by Dr. Trezevant. This position was given official status in the 1854 annual message of Gov. John I. Manning. But the governor's message of 1856 stated that Dr. Parker had changed his views and was then opposed to removing the institution to a site in the country. Dr. Trezevant continued to favor and ardently support the opposite view.

The Board of Regents, in that year, requested the General Assembly to settle the question — remarking that only evil had resulted from the dispute improvements had been delayed and harmony disrupted. The General Assembly voted to construct an additional building on the existing site.

The disagreement between the two chief officers of the institution — Dr. Parker and Dr. Trezevant — did not end with this settlement of the question site, but continued into the planning phase for the new hospital structure which the Legislature had authorized. As a member of "The Association of Medical Superintendents of American Institutions for the Insane", Dr. Parker had participated in discussions when Dr. Kirkbride's plan for mental hospitals had been adopted as being the most suitable.

Dr. Parker contended that for convenience, economy, comfort and ventilation, the Kirkbride plan of rooms on each side of a wide corridor was far superior to any other. Dr. Trezevant objected to the Kirkbride plan, contending that the requirements for the South Carolina climate would not be met. He favored rooms on only one side of a corridor with large



windows to the south and at each end, admitting a flood of light and air and preventing a heavy draft. The Kirkbride plan was adopted and the unhappy situation continued. Dr. Trezevant considered that he, instead of the superintendent, was the executive officer. In his reports references were made to the time he had taken charge of the institution and the statement was made that the superintendent had been placed over him, now claiming "The moral management of the patients".

Dr. Trezevant further stated that the two chief officers had been kept in antagonism and frustration, that the indecision of the Board of Regents for the past two years had increased their difficulties, and even at the moment it was impossible for the two officers to define their powers. The Regents realized that harmony was no longer possible between the two physicians, both of whom had proven to be devoted and efficient officers.

The Regents commented that, to the best of their knowledge, the institution differed from all existing ones by having a physician and a superintendent instead of one officer uniting the attributes of both the chief officers.

This anomaly had been recognized, and so long as the two officers worked amicably together, no harm seemed to result. This harmony, however, had been interrupted, no matter by whom or by what cause. To choose between them was a difficult matter. At the November 19, 1856 Board of Regents meeting a resolution requested the resignation of Dr. Trezevant, and he was so advised by a letter mailed November 20, 1856.

Thus, in this way, ended the nearly thirty years association with the institution of a man to whom "the asylum had been like a loved child." It was an unfortunate ending to what had been a most productive relationship.

The incident forced the Regents into a reconsideration of the organizational structure with the result that the medical superintendent was recognized and given powers as the chief executive officer. While the attitude of the General Assembly and the public toward the institution had changed over the years from non-acceptance to acceptance, "The asylum" still did not enjoy the total support it required by way of financial assistance. Had a private institution of similar standing faced the same situation, bankruptcy would have been in order. As it was, Dr. Parker guided the institution through one financial crisis after another, making miserly use of the token funding coming from the state.

Although considered collectible, the outstanding accounts increased. County governing bodies were consistent in their failure to honor and pay assessments for care and treatment of patients from their areas. The statutes provided that non-paying patients be accepted first. Thus Dr. Parker and the Regents looked toward the county commissioners and the families of paying patients to promptly pay the assessments and charges. In addition to the normal reluctance on the part of the majority to honor their bills, such payments were also dependent upon the tax levy and collectibility of the county taxes and in the case of families, on the sale of crops.

While appropriations and accounts receivable never were sufficient to meet the needs of the institution, it did continue. That it did survive and that it overcame the countless obstacles of its formative years, is ample evidence and demonstration of the outstanding administrative capabilities of Dr. Parker. The fact that he gave freely of his own money to help the institution survive is dramatic testimony to his total devotion and dedication to his work and to "the state asylum."

We have established Dr. Parker's credentials as an administrator. Now let us consider his work in the professional arena.

The "moral treatment" teachings of Dr. Pinel were in effect in American institutions for the mentally ill, and the one in South Carolina was no exception. Medical treatment was considered only supplementary to "moral treatment." Tonics and stimulants were used where indicated. In 1850 Dr. Parker wrote that "Medicine was used sparingly — never having found a necessity for physicking patients because they were insane." Stressed was the importance of admitting patients before they had become seriously ill physically and prostrated from neglect.

Dr. Parker's attitude was that patients were to be treated with kindness and consideration. Their confidence was to be gained by candor and friendliness. Firmness was believed to be absolutely necessary and the more mild and gentle the means adopted, the more easily their abnormal behavior could be controlled. His conviction was that one must never deviate from the truth with patients.

This policy, combined with positiveness and forbearance, in his opinion offered the greatest success. He believed that a kind word followed by a warm bath would generally accomplish more with a disturbed patient than either solitary confinement or any restraining device that had ever been invented. Every possible freedom was given and every encouragement to regain mental health. Many patients chose to remain in the hospital after their condition warranted discharge.

Essential in the care of the mentally ill were cleanliness, fresh air, occupation and diversion or recreation. To insure better ventilation and access to the outside, the small windows on the south ground level of the Mills Building were replaced with doors. Library facilities were provided with current newspapers. Members of the Board of Regents were asked to

contribute books. Patients were encouraged to use the writing materials available.

Occupation was constant and diversified. For the men were farming, gardening, working at the woodpile, in the cornmill and in the kitchen. The grounds were beautified with trees, shrubbery and plants of many kinds and this constituted the beginning of what we believe is now one of the most beautiful areas in South Carolina. Patients assisted in the first greenhouse, built in 1847 in the northeast section of the Mills Building grounds with the north wall as one side, and filled with rare and lovely plants. For many years the gardener or florist was a Chinese gentleman, Oquir Adair.

Women were encouraged to engage in mending, sewing, spinning, weaving and with the housework. Amusements and diversions included walks into the nearby country, bowling, billiards, sports, card games and the gymnasium. Music was of major interest. Dancing afforded pleasure, often with guests from the city, including the governor. Dancing was regarded as good therapy, and Dr. Parker commented that the chief dancers soon got well and left the hospital.

#### FARMING OPERATIONS

Dr. Parker owned land not too far from the city on which he conducted a very successful farming operation. Snowden's History of South Carolina, page 1051, states that "As early as 1859 Dr. J. W. Parker gathered from two acres on the farm about a mile north of Columbia, 359 bushels of corn, one acre yielding 200 bushels, 12 quarts — said to be the world's record. This stood unchallenged until 1889 when the American Agriculturist's corn growing contest, open to the public, took place. The grand prize was won by Captain Zachariah Jordan Drake of Marlboro County, South Carolina, with 255 bushels of crib-cured corn from a single acre."

Dr. Parker offered the use of his farm to the institution as a source of revenue as well as to provide meaningful and bene-



ficial occupations for patients. This offer was accepted in 1866 along with an additional twenty five acres, and this agreement was also renewed in January, 1870. In October, 1880, the farm of Dr. Parker was purchased by the hospital for \$2,100.00 with \$50.00 attorney's fee.

#### WORSHIP SERVICES

A firm conviction of Dr. Parker was that "Though the mind be shattered, there is still left an abiding place for religious veneration." He continued the religious involvement of 1829 with clergy from the city invited to alternate in conducting worship services in the Mills Building. On November 16, 1844, the Rev. Elias B. Hort, Pastor, Ebenezer Lutheran Church, Columbia, was elected as the first chaplain of the hospital, continuing pastoral duties at his own church. He remained as chaplain until his death on January 14, 1863.

Dr. Parker personally conducted prayer services for patients after the evening meal, assisted at times by Rev. Hort. String instrument music in worship services is not the modern innovation one would believe — in 1854, with the approval of the Board of Regents, Dr. Parker purchased a mandolin, cost not exceeding \$100.00 requested by the chaplain to be used at the Sabbath Day services.

#### OVERCROWDING

Classification of patients was attempted, but proved too difficult for accomplishment even as early as 1842 because of overcrowding and other factors. Overcrowding is understandable with the knowledge that paying patients usually occupied apartments rather than single rooms, with particular attendants, and were kept separate in every way, even on the grounds, from the others. This, of course, reduced available accommodations and increased the overcrowding. The situation became so serious that in 1856 the Board of Regents, through the newspapers, announced that no additional wo-

men would be accepted until relief was effected.

#### ACCEPTANCE OF NEGROES

In 1828, when an application was received from a freed man for the admission of his wife, the resolution of the Board was that under the provisions of the statutory charter free persons of color were admissable; also that the Legislature be requested to consider the admission of such persons able to meet the expense as well as those not free whose owners may be willing to pay the usual charge for those unable to pay. Apparently, no action was taken by the General Assembly.

In 1842, a demand for provision in "the asylum for the non-white mentally ill was made by the Magnolia or Southern Appalachian. However, nothing was done until, following the visit of the legislative committee of the General Assembly on December 19, 1848, a statute was enacted authorizing the admission of persons of color. Slaves were to be admitted only on the request of the owner, and freed persons were required to be residents of South Carolina. Appropriation was made for two temporary wooden buildings for these patients, which were built in 1849. The first Negro slave was admitted March 9, 1850, with two others during that year.

Dr. Parker felt keenly the inadequacy of the aforementioned accommodations for persons of color and urged the construction of a proper brick building for them. This dream was not a reality for him. When the large brick building for 400 Negro men was finally completed in 1897, following his death, it was appropriately named the Parker Building.

#### LIFE OF THE SUPERINTENDENT

Dr. Parker's life as superintendent was of many facets and rather rigorous. Among the multiplicity of duties was that of being present in the dining hall at meal time. At six in the winter and at five in the summer, the good doctor rang his bell, then went down to give out break-



fast. The different tables were visited to greet all patients and to ascertain if they were properly groomed.

In addition to the numerous responsibilities as the executive officer, Dr. Parker on several occasions visited northern mental institutions to gain information and guidance. He also participated in national meetings of "The Association of Medical Superintendents of American Institutions for the Insane." He had the privilege of knowing the great humanitarian, Miss Dorothea Lynn Dix, from the state of Maine, who visited S. C. and our hospital several times, once in 1860 by invitation of the Board of Regents. Dr. Parker's report of 1851 expressed appreciation for Miss Dix's gifts of books, prints and other articles, as well as for valuable suggestions referable to employment and amusement especially for women patients.

In behalf of our mentally ill, Miss Dix appeared before the South Carolina General Assembly in Columbia and also made a trip to Charleston for the same purpose. By private subscription in South Carolina Miss Dix collected \$3,000.00 which was to be used to purchase the Colonel William Wallace property to the north of the Mills Building on March 30, 1896.

A large framed photograph of Miss Dix, her personal gift to Dr. Parker, is now in the Dix Pavilion of the William S. Hall Psychiatric Institute.

One of the most important improvements of Dr. Parker's administration was the installation of gas lighting in the Mills Building in 1852. Burners were installed in patient areas and six handsome chandeliers placed in the parlors and sitting rooms.

The coming of the war years, beginning in 1863, brought with them peculiar trials and difficulties. The existence of the institution was one of protracted struggle. Dr. Parker received very little state funds in the beginning and in the later years, none. Lack of funds impoverished the hos-

pital. Daily expenses far exceeded the income and to compound the problem, wartime prices of goods had risen to almost unbelievable heights — even when goods were obtainable. Buildings had deteriorated to a deplorable condition and repairs were urgently needed.

An appeal to Governor M. L. Bonham was rejected on the grounds that the contingent fund must be earmarked for military purposes. A plea for permission to purchase supplies at government prices from the State Commissioner Department was likewise rejected. The governor was then advised that the seriousness of the situation left only three alternatives; 1) Drastically ration food supplies to the patients; 2) Open the doors and release the patients; 3) Continue to operate the hospital from the personal resources and credit of the Board of Regents.

Upon the recommendation of Governor Bonham, the Board pledged their personal and individual credit and obtained a loan until December, 1863 when the General Assembly went into session. At this session, the General Assembly appropriated funds requested for the deficit and also made an appropriation for the coming year — even though it was far below required levels of funding, for inflation was rampant. One estimate says that the cost of the necessities of life had risen 500 per cent.

The year 1864 brought even more trying circumstances and provisions were so scarce and prices so high that often there were only small daily rations of bread and water for the patients at the hospital. Here again we find Dr. Parker contributing from his personal funds to meet crucial needs. On one occasion he personally advanced \$25,000 which, it is reported, was later refunded to him. He advanced corn and tobacco from his own farm lands and for more than 12 months he did not draw his salary.

When General William Tecumseh Sherman arrived in Columbia on February

17, 1865 and went about the methodical destruction of the capitol city with fire, it was only the intensity of Dr. Parker's appeal and his courage which saved the institution from the torch. Hundreds of citizens crowded into the buildings and onto the grounds seeking refuge and safety. Space and food was shared.

With the surrender of the confederacy and the resulting worthlessness of Confederate currency, the situation was desperate. Rejected and ignored at all official levels, Dr. Parker turned to General Gillmore who appropriated one week's supply of rations and medicines from his own garrison supplies. Like the area as a whole, the institution suffered tremendously during the aftermath of the war and again Dr. Parker was tested as both an administrator and as physician to provide for his patients. The fact that the institution did survive is still further eloquent testimony to the unswerving determination of Dr. Parker.

#### REMOVED BY PARTISAN ADMINISTRATION

Dr. Parker continued in the uninterrupted performance of the duties of superintendent-physician with untiring loyalty and unceasing efforts to sustain the hospital until June 1870 when he was removed during the administration of Governor Robert K. Scott. There were many protests, among them one from Miss Dorothea Lynn Dix to Governor Scott urging that Dr. Parker be retained in the office he had so long occupied with distinction. There was a wail of distress from the patients when they realized they were being deprived of their beloved physician. All appeals were in vain, and he was replaced in the position so ably filled since January 1, 1837.

#### SUCCESSOR

Records indicate Dr. Parker's last report was in June, no exact date stipulated as to his leaving, and he was succeeded on August 5, 1870 by Governor Scott's appointee, Dr. Joshua Fulton Ensor, a fede-

ral army officer, whose administration of seven years was also one of distinction and dedicated service to the patients and the state.

#### DR. PARKER RETURNED

By appointment, Dr. Parker returned to the hospital on November 2, 1876 where he ably occupied the position of first assistant physician until his death on October 11, 1882.

Throughout the years, first as superintendent and later assistant physician, the Board of Regents often commended Dr. Parker's compassion for the patients, his humane management and able administration. Their November 1865 report stated that in simple justice their conviction was that this shelter for the unfortunate must have succumbed to the pressure of the times had it not been for his extraordinary skill and energy.

Other superintendents he served under, Dr. Joshua Fulton Ensor, superintendent, from August 5, 1880 to December 31, 1876, and his successor, Dr. Peter E. Griffin, January 1, 1878 to May 1, 1891 were most complimentary referable to Dr. Parker's steadfastness and devotion to the interests of the patients. During the prolonged illness of Dr. Griffin, he was the acting superintendent.

Until 1850 the Parker family had occupied an apartment in the Mills Building, but at that time they moved to a residence on the southwest corner of Bull and Elmwood streets. Then in 1864 the Board of Regents authorized the family to move back into the Mills Building. In 1870 the Parker family moved to a residence at 158 East Laurel Street.

Despite failing health, which at one point forced his hospitalization, Dr. Parker carried out his duties as assistant physician to the best of his abilities. Finally even his iron will and rugged determination could sustain him no longer and he was forced to bed. Ten days later on October 11, 1882 at the Laurel Street home, Dr. Parker died at the age of 79.

JOHN WARING PARKER, M. D.

The Columbia Register of October 12, 1882, commented that Dr. Parker in his personal and social life exhibited all the higher qualities of mind and heart that go to make up the affectionate parent and friend, the public spirited citizen and the highest type of man — the humble,

earnest, consistent Christian.

Truly, Dr. John Waring Parker's almost 80 years of meaningful living were filled to the utmost with service for the less fortunate. He laid the foundation of compassion and real helpfulness for the mentally ill which continues to this day.

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# COUNSELING COUPLES WITH SEXUAL PROBLEMS

J. P. SEMMENS, M.D. AND  
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The Department of Obstetrics and Gynecology at the Medical University of South Carolina has established a program of treatment of sexually dysfunctional, middle economic income level couples at a cost they can afford. The more sophisticated programs of treatment require a high entrance fee and two weeks in residence, which takes the couple away from their employment and home environment, and are geographically located in cities which entail a long journey. There are so few of these programs that they cannot meet the demand, consequently there are long waiting periods before a dysfunctional couple can be accepted.

How can a physician recognize the patient who is experiencing sexual problems? What criteria will help him decide when to counsel or when to refer? What are some of the signs, symptoms, and psychosomatic complaints which indicate the need for an indepth sexual history? The choice between counseling or referring is directly related to the physician's attitude and the ability and ease to discuss sexual problems. If the physician can recognize the role of sexual stress and its relationship to organic illness, a referral can be suggested. Does the patient need the services of a marriage and family relations counselor (such as a clergyman or a psychologist), or is a psychiatric evaluation and therapy required, or should the couple be sent to therapists whose expertise is in the treatment of psycho-sexual dysfunction? The selection of the type of therapy re-

quired should be based on the referring physician's appraisal of the patient's comfort with his or her sexuality, sexual role, and ability to communicate within the interpersonal relationship. Sexuality is a dimension of personality involving maleness or femaleness. The sexual role means sexual function as a male or a female. This type of information can be obtained without embarrassment to the physician or the patient by not asking specific details of the sexual dysfunction unless volunteered by the patient.

## ROLE OF PSYCHOSOMATIC ILLNESSES

We have been impressed with the relationship of physical versus psychosomatic illnesses as reflected by marital stress and subsequent sexual dysfunction. Sixty percent of the couples seen for counseling during the first year gave a history of recent or ongoing physician care for sexually related complaints. In two-thirds of the patient couples one partner had been under treatment for over nine months before the sexual content of the complaint or its capacity to intensify the illness was identified by the physician. Most of the referrals followed the patient's request for sexual information and counseling rather than originating from an initial sexual history which would indicate a need for such assistance.

Prior to referral for sexual counseling, the treatment of these patients had been for complaints having a greater psycho than somatic content. This indicates the rather obtuse manner in which patients with sexual problems present themselves to their physician. Women are most apt to

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present with a menstrual disorder such as menorrhagia, menometrorrhagia, dysmenorrhea or premenstrual tension. Early failures in response to accepted modes of therapy for these conditions should lead to an early suspicion of psycho-hormonal interference in the hypothalamic-pituitary-ovarian axis. Even less attention to sexual content was noted by the physician treating patients with recurring vaginal discharge, vulvovaginitis, pruritus, etc. These are patients who make monthly pilgrimages to the physician's office for the most recent medications on the market which combat trichomonal vaginitis, monilial vaginitis, or leukorrhea due to a mixed bacterial flora. These are patients who complain of offensive sexual odors. These are patients who, following their pelvic examination and prescription for some type of topical medication, seek the physician's license to abstain from sexual relations until their "discharge" improves. If a sexual history has not been taken from this type of patient, it should be earmarked for attention immediately or upon a return visit during the course of current treatment.

The pelvic congestion syndrome as discussed originally by Taylor probably deserves more extensive clinical investigation before determining the extent of its psycho versus its somatic component. The syndrome involves pelvic fullness and pressure as well as pelvic pain which may be either localized or generalized. Unfortunately, some of these patients may have accompanying menstrual irregularities and an occasional small functional cyst of the adnexa which may or may not be noted at one of her multiple office visits. In order to provide total care, a simple history is indicated inquiring whether these patients are orgasmic and how they feel about their sexual roles. They are the confirmed medical shoppers who, in an effort to cope with their stress, submit to repeated surgical procedures.

Equal emphasis should be placed upon the female patient complaining of urinary

frequency, urgency, and/or dysuria, especially when she has been subjected to months of urethral dilatations. Not that the urethral dilatations should not be done, but the indication for this type of therapy in the light of minimal findings indicates the need for a sexual history.

Men frequently present with gastrointestinal disturbances or angina pectoris rather than genitally oriented complaints. Over forty-five percent of dysfunctional males seen in our clinic gave a history of treatment for non-specific and recurring urethritis, epididymitis, or varicoceles with minimal physical findings. The possibility of sexual content related to these disturbances was ignored in fifty percent of these individuals by their attending physicians.

#### CLINICAL EXPERIENCE

In addition to our function as therapist and co-therapist in the program, as members of the Medical University faculty, we teach behavioral science and techniques of sexual counseling to students, we work as a team obstetrician-gynecologist and counselor for sexually active teenagers at the Franklin C. Fetter Family Health Clinic. Also, the doctor teaches psychosomatic OB-GYN and OB-GYN Core, sees private and service patients in the clinics, performs obstetrical deliveries and gynecological surgery. During the first year we were limited to one half day per week for the sexual counseling of referred couples. Using the time block of three 1½ hour sessions, we could treat a maximum of three couples each week. On occasion the entire time segment has been allocated to a single couple if the urgency of their problem so dictated, or if they lived a long distance from the medical center, which necessitated their spending the night in Charleston.

Our total clinical experience during the first year included 22 couples, five of whom after interview, cross-interview, and conference, were not encouraged to proceed with therapy. In two instances the male "chauvinist" partner refused to sup-



port the counseling sessions with his physical presence because he laid all the blame on his wife. One female partner was coerced into attending an initial interview, came late, and was obviously determined to terminate the marriage. Two other couples had already reached the point of legal separation, had not had coitus in over a year, and their sexual problems were the reflection of a complete break-down in communication within the marriage. Their expectations had not been reached because there were unresolvable differences for which neither partner wished to compromise. These are examples of couples who require professional license to proceed with their decision for divorce.

Of the 17 couples who completed a full course of psychotherapy, sex education, sensitivity training, deconditioning and reconditioning, 85 percent were blue-collar type workers or salaried employees. Often both partners were employed full or part time as, for example, registered pharmacist, L.P.N., R.N., bookkeeper, teacher, student, law enforcement officer, pipe fitter, farmer, factory worker, railroad tie dipper, hairdresser. Their ages varied from 21 to 54 years, and the length of the relationship extended from six months to 23 years.

Among the couples nine females were treated for primary sexual dysfunction (never having experienced orgasm); four were treated for secondary sexual dysfunction (orgasmic at one time but presently non-orgasmic). Five males were treated for premature ejaculation, two for secondary impotence, and one for masturbation as his only sexual outlet except on two occasions in five years of marriage. His excuse was that he did not feel that he could be a good parent, therefore, he was avoiding pregnancy for his wife. During the first year no patients were seen for primary impotence or vaginismus. Dyspareunia was a common complaint of the female partner but not a primary complaint or the reason for referral.

With behavioral change (improved com-

munication and sexual function) as our criteria for effective therapy, partial to total success has been achieved by all except one couple, when one partner proved to be overtly psychotic.

#### CLINICAL APPROACH

Our clinical approach employs a male and a female cotherapist who treat the relationship, a technique advanced by Masters and Johnson. We insist on a minimum of three 1½ hour sessions for any couple deciding to enter therapy. This includes intake, cross-interviews, conference, sexological examinations, education, varying degrees of sensate focus, and reconditioning. However, the program remains flexible enough to include perineal muscle conditioning and exercises if needed, desensitization, body imagery, and reconditioning exercises for specific dysfunctional problems.

The counseling environment differs from that of other more sophisticated clinics because couples are counseled in the environment responsible for their stress. Between counseling sessions, couples return to their homes to face family pressures, principally those relating to their children, in-laws, neighbors, and community in general. They continue their employment and must cope with job pressures and stress relationships with fellow employees and management, plus the pressures of work output. The concept of being counseled away from home on a "motel vacation" with evening entertainment is the exception rather than the rule. Most of the couples carry out their assignments at home and return to the clinic for further sessions at time intervals of one to two weeks.

Couples in therapy are assured that all sessions will be tape recorded and that the tapes will be used solely by the co-therapists. They are not made available to students, hospital or office personnel, or referring physicians. A minimum of printed records is kept. We file only the reports of the psychological testing from the neuropsychological service, basic phy-



sical examinations and laboratory tests necessary to evaluate psychosomatic complaints. Progress reports sent to the referring physician are brief, indicating only diagnosis, progress, suggested collateral therapy and support. If specific information is given, it is by direct phone conference with the referring physician.

As counseling equipment we use portable recorders and audio-visual aids in the form of 2 x 2 slides. The intensity and sophistication of the program for a given couple is dictated by their needs, their ability to assimilate the material, and their rate of progress, rather than their ability to pay.

Psychological testing is employed for all couples requesting counseling. Most partners experiencing sexual difficulties demonstrate an abnormally high incidence of depression, anxiety, insecurity, etc. Being aware of these neurotic tendencies is important in determining our approach to treatment. Caution must be taken with the anxious patient, especially when assigning tasks which involve touching and sensate focus. The psychological tests include the MMPI, Zung test for depression, Gough Adjective Check List, Pursuit-Rotor test and behavioral observations by a Ph. D. psychologist. As co-therapists, we are investigating the Taylor-Johnson Temperament Analysis which permits a criss-cross evaluation of self and partner. The "draw a person" technique permits a graphic visualization of the concept of self and partner by the individuals under therapy. Psychological testing helps to identify those who need psychiatric help either on an outpatient basis as an adjunct to counseling or on an in-patient basis before counseling. It is most important to identify those who will be threatened and need special consideration prior to initiating therapy.

The initial interview intake is accomplished by the co-therapists permitting the couple to discuss their current situation as long as both are comfortable in the same room, as long as they can agree on what

is being said, and as long as the therapists feel that it is supportive to the relationship. We find that most couples are able to discuss factors contributing to their sexually dysfunctional situation calmly and in depth when the co-therapists are present as catalysts. When it becomes apparent that one partner or the other is expected to assume most of the blame or when there is a question of who did what to whom and it threatens one or both personally, we immediately stop the couple intake and proceed to individual cross-interview to determine communication breaks.

Normally in cross-interview the male partner would be interviewed first by the male therapist and the female partner interviewed by the female therapist. However, we try to assess which partner would feel most comfortable with which therapist for their initial individual interview. Most of the important information will come from the initial individual intake rather than subsequent individual intake in the cross-interview with the second therapist. One-third of our individual interviews have been conducted initially with the therapist of the opposite sex.

Following psychological testing, evaluation, interview, and cross-interview, the therapists meet with the couple for a conference to outline the procedures which will follow and the estimated or anticipated time for treatment. The decision as to whether to proceed is then made. When we feel that the couple should continue and they elect to continue, they are given physical examinations and lab tests as required, as well as sexological examinations. All of these are correlated with the history and intake. All major and minor physical abnormalities which may or may not be related to sexual function are evaluated, treated, or referred for additional consultation when indicated. We explain and discuss with the couple the relationship of the foregoing examinations to the capability of sexual function in view of the psychological aspects.

Body imagery has been of considerable help in dealing with the insecure individual. The total person is visualized, verbalized, and fantasized in a personal inventory of what the individual contributes to the relationship. Through this exercise a true sense of self-worth emerges for the insecure partner. We encourage continued use of inventory and body imagery by both partners for reinforcement and as an adjunct to improvement of understanding and communication.

Sensitivity and touching are important to physical communication and represent a foundation that must be established before proceeding to any conditioning with sexually dysfunctional couples. For purposes of orientation we divide sensate focus into stages I and II. During Sensate I couples learn to permit touching and caressing by their partner and learn to reciprocate. Touching by dysfunctional couples prior to therapy is usually by a single partner with the other acting as a spectator and recipient. The partner who is threatened by touching skin to skin may learn to give as well as receive pleasure initially by using a washcloth, soap, powder, or lotion. Caressing exercises of foot, face, and body and breathing in harmony while lying together nude are forms of sensitivity employed prior to deconditioning and reconditioning.

Sensate II is sensitivity involving sexual caressing, male to female and female to male. It has been our experience that in 30 percent of impotent males, female to male caressing as part of therapy (occurring perhaps for the first time in their lives) produces an almost immediate unsolicited positive response. A non-demanding position is assumed by the dysfunctional partner in order to eliminate the threat of coitus. The permission to proceed from Sensate I to Sensate II and beyond is clearly defined by the therapists.

When sexual pleasuring is permitted with the goal of Coitus I, the dysfunctional partner assumes a position from which he or she may withdraw during the re-

lationship and return to Sensate Focus I or II, or terminate further involvement until comfortable and confident of becoming capable of a satisfactory response. During this phase of conditioning, couples proceed at rates in which they are individually able to function efficiently without either partner being threatened. The ground rules, goals, and degrees of involvement are again set by the therapists with permission to proceed only when there is reasonable assurance that the dysfunctional partner is capable of accepting increased activity. It is only when there is complete trust and confidence in each other that the final phase of therapy is attempted.

Coitus II permits free use of other sexual positions, however, it is suggested to begin side to side to reinforce the sense of equality desired. As mutual trust builds, the dysfunctional partner will become more comfortable and accept positions offering less freedom of movement. At all times couples are encouraged to avoid any position in which both partners cannot fully express their needs to enjoy giving and receiving emotional and physical pleasure. Orgasm is achieved most often when neither partner dominates the other, and each feels the freedom of giving in order to receive, rather than taking for self-gratification.

### SUMMARY

In summary, we treat the relationship between two partners, because we believe that no one partner is without blame in a sexually-oriented problem of dysfunction. Employing the techniques of more sophisticated programs, we can provide treatment which is financially within reach of middle economic income level couples. They can achieve satisfactory functional response in their home environment while facing stresses from family, employment and society. Our program offers continuing evaluation, reinforcement, and flexibility as dictated by the needs of each couple.

## SEXUAL PROBLEMS

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# President's Pages



I would like to take as my thought for this month a quotation from the New Public Relations Program of S. C. Medical Association. "The New Public Relations Program of the S. C. Medical Association is designed to increase the effectiveness and well being of the Association, its members and the medical profession; and to earn the understanding and good will of our publics, through sound service and effective communication with our public, thereby strengthening our benefit to our fellowman, to the state and nation in which we live and practice our profession."

After having just gone through a bombardment by the News Media concerning the "Aiken Situation," I am very conscious of the need for us as a profession to strengthen and improve the image of the Medical Profession and its members. We must emphasize the good citizenship-public interest contributions of doctors to the well-being of the state and its people. We must effectively handle press or other public criticism.

It is discouraging, of course, to find irresponsible elements of the communications Media together with certain politicians, and the like, simultaneously doing their mis-directed best to undermine public confidence in the Medical Profession.

I am sure that I do not have the answer to how we may carry out this objective, but I do believe to achieve any part of this ideal demands that each individual physician in South Carolina becomes conscious of the fact that he is a public servant and therefore is subject to more criticism than ordinary citizens would be. I believe we as individual physicians must rededicate ourselves to the principles that we are a profession populated by men and women of confidence and integrity and the will to do their best for their people. I believe it is important that each of us be conscious of our conduct as leaders in our community and as physicians dedicated to the oath of Hippocrates.

There is a slowly growing appreciation of the fact that physicians are not so much a part of the problems as they are an essential part of solutions to the problems.

The individual physician uniformly finds it hard to make his voice heard and his convictions felt unless he combines his efforts with those of his colleagues through his County and State Medical Society. Almost every practicing physician has his concerns with insurance companies, voluntary pre-payment plans, prepaid comprehensive group practice arrangements, and government programs. He would be hard pressed to maintain liaison with them, to cooperate with them, to argue with them or to negotiate on his own. Massive may be the frustration which is generated in trying. There is far better chance of success if there are people to do it with him and for him. This is what I hope for the S. C. Medical Association.

Too often the question is, "What does a Medical Society do for me?" The valid question should be "How may I be responsive to the many demands being made upon the profession of which I am a part?" "How can I do my share?"

Time was when the new-fledged physician could select his spot for practice and busy himself just doing the things for which he was trained — the diagnosis and the treating of the ills of those who came to him for help. No one really demanded that he do more. Today this is not so. A profession populated exclusively by individuals concentrating solely on patient care would be a profession in default to society.

I agree with the President of the AMA, Dr. Russell B. Roth, when he said, "I am of the opinion that our profession does indeed have a multitude of broad societal obligations and responsibilities which increase in scope and number as our capacities increase to do good and useful things for people."

I believe each one of us should ask ourselves these 3 questions:

1. Will it do harm to the Medical Association to which I belong?
2. Will it harm patient-doctor relationship that has been paramount in the declarations of the medical profession down through the ages?
3. Will it do harm to me and to my reputation as a physician?

Harold P. Hope, M.D.

President



## 50 YEARS AGO

October, 1923

The State Board of Health noted a fall in the death rate in the state to 11.6 for whites, 13.6 for the colored population. A declining birth rate was also noted.

# Editorials

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## Welcome Aboard, Charles Johnson

As of August 15, 1973, Charles Johnson signed aboard the good ship, South Carolina Medical Association, as chief executive officer. This man is an experienced, salty, professional medical executive. He has worked both sides of the medical stream, having served six years as field representative for the A.M.A. and having worked for the Arkansas Blue Cross-Blue Shield Plan. His immediate past experience was in administration of the gigantic Los Angeles County Medical Society.

The officers of the South Carolina Medical Association, the Council, and its Search Committee, chaired by John Hawk, all deserve great credit and thanks for consummating this effort so felicitously for the South Carolina Medical Association.

Two months ago we jubilated at the giant step toward first class passage our South Carolina Medical Association took with the decision to construct a three-story headquarters building in Columbia. We believe that this step, paired with the equally giant step of acquiring a full time, experienced medical administrator, will bring the South Carolina Medical Association into full steam ahead.

Address all your problems to:

Charles Johnson, Executive Director  
South Carolina Medical Association  
1508 Washington Street  
Columbia, South Carolina 29201

We are glad to have him.

Welcome aboard.

E.E.K.

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## Good News Times Two

It is always good news to have worthwhile material in the *Journal of the South Carolina Medical Association*, and this

issue contains several worthy articles, two of which require special comment.

First, we would like to call your attention to Art DiSalvo's article "Office Laboratory Licensure." This information is notable, not for your reading pleasure, nor for its scientific discovery, but for your own protection. Art DiSalvo is Chief of Bureau of Laboratories, South Carolina Department of Health and Environmental Control. He is very kind to bring this licensure requirement to our attention. Many of us are not aware that "any office laboratory servicing three or more physicians must be licensed." This is not Art DiSalvo's idea, nor a regulation from up in Washington. This is a law of our own state. I understand that it will start being enforced in November. If you have *any* laboratory facilities, please read the article to see if it applies to you.

Secondly, another article in this issue is worthy of comment for an entirely different reason. Most scientific manuscripts are written in the professorial manner. That is, the author goes to the library, bones up on the subject by reading what many other authors have thought and discovered about the subject, then our author develops his own approach to the subject, gets medical students, house staff, etc. to do the work, and then the author analyzes the results and draws his conclusions. We do not mean to knock this method of producing scientific reports. This type article is the backbone of any medical journal and the leading edge of medical discovery. But it is refreshing and valuable to have material of another sort. We are referring to J. Rutherford "Scrappy" Smith's work, "Sedativism, A Syndrome of Multiple Addiction." Herein we hear an acute observer speaking of his



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## GETS THE WATER OUT IN EDEMA

## BRINGS DOWN BLOOD PRESSURE IN HYPERTENSION\*

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Before prescribing, see complete prescribing information in SK&F literature or *PDR*.

\*Indications: Edema associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. Also, mild to moderate hypertension.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia ( $> 5.4$  mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide,' check serum potassium frequently — both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides

are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Rarely, necrotizing vasculitis, paresthesias, icterus, pancreatitis, and xanthopsia have occurred with thiazides alone.

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How to better achieve a smooth "pill" response :

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I. If one "pill" were right for every woman, we'd make it.

```
graph TD; A["Patient need for contraception  
Medical history, physical examination  
Past pill experience"] -.-> B["Known special hormonal needs"]; B -.-> C[" "];
```

Patient need for contraception  
Medical history, physical examination  
Past pill experience

Known special hormonal needs

# "the pill" to your patient

2. Demulen,  
a 50-mcg.  
"low-estrogen" pill,  
is a logical  
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estrogen or is sensitive  
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Each tablet contains: norethynodrel 2.5  
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Note: Oral contraceptives are complex medications. As with all medications they should be prescribed with discriminating care, and only after reference to full prescribing information. For brief summary of prescribing information, please see next page.



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Each white tablet contains: ethynodiol diacetate 1 mg./ethinyl estradiol 50 mcg.

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**Actions**—Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Special note**—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication**—Ovulen and Demulen are indicated for oral contraception.

**Contraindications**—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings**—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain<sup>1-3</sup> leading to this conclusion, and one<sup>4</sup> in the United States. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll<sup>3</sup> was about sevenfold, while Sartwell and associates<sup>4</sup> in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as non-users. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions**—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of

fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives**—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfolobomphthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T<sub>3</sub> uptake values; metyrapone test and pregnanediol determination.

**References:** 1. Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, J. Coll. Gen. Pract. 13:267-279 (May) 1967. 2. Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. 2:193-199 (April 27) 1968. 3. Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. 2:651-657 (June 14) 1969. 4. Sartwell, P. E.; Masi, A. T.; Arthes, F. G.; Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives: An Epidemiologic Case-Control Study, Amer. J. Epidem. 90:365-380 (Nov.) 1969.

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**Indication**—Enovid-E is indicated for oral contraception.

The Special Note, Contraindications, Warnings, Precautions and Adverse Reactions listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

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Where "The Pill" Began

own personal observations and interpretations. We need more of the same for the *JSCMA* if it is to be truly YOUR journal, as we hope.

E.E.K.

### Why Your Journal Is Losing Money Part I: External Reasons

At the 1973 Convention, we announced that in 1972, *JSCMA* lost some \$10,000, which is about the average annual deficit *JSCMA* has experienced over the past several years. Inflation may increase this loss unless strong efforts are made to correct the situation, which we shall outline in a short series of editorials. This the first and the easiest of the series because it is easier to discuss and deal with outside problems than with your own shortcomings.

Now, I want to complain about the "throw aways," those unsolicited, "free" publications that arrive at your desk with almost every mailing. Undoubtedly, some of this material is worthwhile, especially office management and money management advice, which is completely ignored in the legitimate medical press. But, con-

sidering the mass of material, there is small return on the money. And these "throw aways" are not free. "There ain't no such thing as a free lunch" is one of my favorite and most operational bits of philosophy. Just as true is, "there ain't no such thing as a free journal!" Let me quote from the editor<sup>1</sup> of one such magazine about his experience: "A magazine of our type, and there are *more than 50 others* now in the field, is sent *without charge* to physicians who fulfill a particular demographic pattern." (*Italics mine*) And, "A magazine such as ours is only as strong as its ad lineage. These ad pages, which emanate from ethical pharmaceutical house. . . ." So you see, these magazines are not free. They are supported by drug houses, which, like all of us, have limited budgets. Every ad in a "throw away" is one less ad for journals like *JSCMA*. It seems to me these "throw aways" have proliferated beyond reason. Here is a partial (undoubtedly a few were thrown away before they were counted) list of unsolicited, "free" magazines that arrived on my desk in the single month of June, 1973.

Consultant	Monthly	Consultant Publications (Cliggott Publishing Co.)
The Surgical Team	6 times a year	McMahon Publishing Co.
Today's Health	Monthly	American Medical Association
Modern Medicine	Every other week	Modern Medicine Publications (A Division of N. Y. Times Media Co.)
Relax	Monthly	Star Enterprises
Rx Sports & Travel	Every other month	Rx Golf & Travel, Inc.
		McNamara Publishing Co. & Academy News Bulletins)
Orthopedic Review	Monthly	Harcourt, Brace Jovanovich
Physician's Management	Monthly	American Medical Association
PRISM	Monthly	American Medical Association
American Medical News	Weekly	MD Publications
MD	Monthly	Medical Tribune, Inc.
Medical Tribune	Weekly	



Medical Aspects of Human Sexuality	Monthly	Hospital Publications, Inc.
Group Practice	Monthly	(This is labelled the <i>Journal of the American Association of Medical Clinics</i> , and is published by Group Medicine Publications.
Medical Economics	Every 2 weeks	Medical Economics, Oradell, N. J.
American Family Physician	Monthly	American Academy of Family Physicians
Contemporary Surgery	Monthly	McGraw-Hill, Inc.
Journal of Sports Medicine	Bimonthly	Sports & Medicine Publications
Medical Group News	Monthly	Global Medical Press
Journal of Legal Medicine	Every 2 months	GMT Medical Information Systems
Private Practice	Monthly	"Official Publication of the Congress of County Medical Societies"
Medical World News	Weekly	McGraw-Hill
DIVERSION	Every 2 months	Family Health Magazine
Sports Medicine (The Physician and)	Monthly	McGraw-Hill

Remember, all of these magazines are being supported by ads *JSCMA* did not get. That is the external reason your journal is losing money.

Next month—Part II: Internal Reasons.  
E.E.K.

#### REFERENCE

1. Scott, B. T.: The ups and downs of a modern medical magazine, *Medical Communications* 1:4, April, 1973.

## LETTER TO THE EDITOR

"I am currently editing a book on How To Stop Smoking. I would appreciate hearing about any methods that have been effective. Please contact me at the following address:

Claude A. Frazier, M. D.  
4-C Doctor's Park  
Asheville, N. C. 28801."



# OFFICE LABORATORY LICENSURE

ARTHUR F. DiSALVO, M.D.

In June 1972, the General Assembly passed an Act requiring the licensure of certain medical laboratories in South Carolina. The S. C. Department of Health and Environmental Control is charged with the implementation of this Act. The office laboratories of some physician groups may be required to comply with these requirements. Performance of certain basic laboratory tests essential to the immediate treatment of the patient may be exempted from compliance with this Act. This may include such tests as urinalyses, hematocrits, white cell counts and pinworm slides.

Section 1 of the Act states: "The proper operation of medical laboratories within the State of South Carolina is a matter of vital concern to the public health, safety and welfare of the people of South Carolina since medical laboratories provide essential services by aiding medical practitioners in the diagnosis and treatment of disease. It is recognized that the people of South Carolina are entitled to receive the highest level of competency, reliability, and accuracy from all medical laboratories; and to that end it is declared to be the purpose of this Act to develop, establish and enforce minimum standards for the licensure of medical laboratories and thereby to properly regulate the operation of such."

The reason for legislative intervention is simple: The results of many laboratory tests are inaccurate and the legislature decided that these tests are of such importance to the health of South Carolinians that their performance should be regulated. Dr. David Sencer, Director of

the Center for Disease Control, stated that "approximately 25 per cent of all laboratory procedures performed in the United States are not performed correctly and therefore give erroneous results to the physician." This statement has been well documented.

The first step in the implementation of this Act will be to determine which laboratories in South Carolina come under its regulatory requirements. To accomplish this, the Bureau of Laboratories will soon mail to *all* practicing physicians in the State Form BL-1 entitled "PRELIMINARY APPLICATION / EXEMPTION STATUS CERTIFICATION FORM FOR LICENSURE OF LABORATORY". The form will serve either of two purposes: (1) to make a preliminary application for licensure of the laboratory, or (2) to certify the exempt status of the laboratory. The law exempts from its provisions laboratories operated under the following conditions:

- A. Medical laboratories operated by the United States Government.
- B. A medical laboratory operated by not more than two duly licensed medical doctors, exclusively in connection with diagnosis and treatment of their own patients; *PROVIDED*, however, that if referred work is received in this medical laboratory, all provisions of this Act shall apply. When three or more duly licensed medical doctors operate a medical laboratory, one must be designated as director and all provisions of this Act shall apply.
- C. A laboratory operated and maintained exclusively for research purposes, involving no patient or public health services whatsoever.

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\*Bureau of Laboratories, South Carolina Department of Health and Environmental Control, Columbia, South Carolina 29201

D. A laboratory operated and maintained exclusively for law enforcement purposes.

The Act has created an Advisory Committee to the Department of Health and Environmental Control (former State Board of Health) to aid in the implementation and pursuance of the Act. The composition of the Committee is specified

#### MEMBER

Forde A. McIver, M. D.  
Skottowe B. Fishburne, M. D.

E. Arthur Dreskin, M. D.  
Louis D. Wright, Jr., M. D.

Bobby Hart, M. T., (ASCP)

John D. Page, Jr., (AMT)

Charles G. Cooper, Administrator  
William B. Finlayson, Administrator

Arthur F. DiSalvo, M. D.

of the Clinical Laboratory Improvement Act of 1967. These standards must include (1) quality control program, (2) maintenance of records, equipment and facilities, (3) qualifications of the Director and other supervisory personnel and (4) participation in a proficiency testing program.

Proficiency testing is a process whereby unknown samples are submitted to participating laboratories, examined and the results are reported to the Department of Health and Environmental Control. The participants' results are compared to those of their peers and certain selected "expert" reference laboratories. Comparative standing with constructive comments on techniques, and possible sources of error are returned to each participant. All laboratories remain anonymous to each other in this process.

The voluntary proficiency testing program conducted by the Bureau of Laboratories of the Department of Health and Environmental Control has shown that many medical laboratories in South Carolina need improvement. It has also demonstrated that the work of these laboratories

and the recommended individuals are appointed by the Governor. The present composition of the Laboratory Advisory Committee is:

Federal funding may be available from the Department of Health, Education and Welfare to finance a State Laboratory Licensure Act providing that the rules and regulations meet or exceed the standards

#### RECOMMENDED BY

S. C. Medical Association  
S. C. Medical Association

S. C. Society of Clinical Pathologists  
S. C. Society of Clinical Pathologists

S. C. Society for Medical Technology

S. C. Society of American Medical Technologists

S. C. Hospital Association  
S. C. Hospital Association

S. C. Dept of Health and Environmental Control

can be improved through training programs and consultation services such as we offer at the Bureau. In 1964, the composite average grade of all the laboratories who participated in our voluntary proficiency testing program in syphilis serology was 85.6 per cent. This is extremely low for a repetitive, simple procedure that is readily reproducible. After having deficiencies in their performance brought to their attention through the proficiency testing program, these and other laboratories who later joined the program took remedial measures which by 1972, had raised their composite average grade to 95.5 per cent. A major factor in this improvement, we believe, was the participation of technologists from the laboratories in the training courses which we offer, as well as special consultations with our staff. A similar proficiency testing program will be a major tool of the licensure program to evaluate and improve laboratory diagnostic acumen. Participation, however, will be mandatory.

When you receive your form (BL-1), please give it your prompt and careful attention. A copy of the Licensure Act will be sent with the form.



# THE CHALLENGE OF PAIN





# FOR THE PHYSICIAN **THE CHALLENGE:**

## **How do you evaluate pain?**

There are as many degrees of pain as there are people who experience it. And the intensity of pain—a question of degree—varies with the individual. Your training, knowledge, experience and skill provide the ability to interpret not only pain, but your patient's tolerance as well. Only you can place pain in its proper perspective.

## **How do you manage pain?**

Minor aches and pains can usually be controlled with mild analgesics. Intense pain may require more potent medication. But for effective analgesia in mild-to-moderate pain, you can depend upon Anexsia-D.



FOR THE PATIENT IN PAIN

# ANEXSIA<sup>®</sup>-D

May eliminate, delay or reduce the need for  
parenteral analgesics.

---

Produces significant relief of mild-to-moderate pain.

---

Anexsia-D has a schedule III classification which  
permits prescription refill up to six months,  
or five times, at your specification.

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# ANEXSIA<sup>®</sup>-D

Hydrocodone bitartrate 7 mg. (Warning: may be habit forming), Phenacetin 150 mg.,  
Aspirin 230 mg., Caffeine 30 mg.

(Full prescribing information on following page)

**BEECHAM-MASSENGILL PHARMACEUTICALS**  
Div. of Beecham Inc.  
Bristol, Tennessee 37620

# MEET THE CHALLENGE OF PAIN WITH **ANEXSIA-D**<sup>®</sup> *for significant relief of mild-to-moderate pain*

Hydrocodone bitartrate 7 mg. (Warning: may be habit forming), Phenacetin 150 mg., Aspirin 230 mg., Caffeine 30 mg.



**Composition:** Each white grooved tablet of Anexsia-D contains Hydrocodone bitartrate 7 mg. (Warning: may be habit forming), Phenacetin 150 mg., Aspirin 230 mg., Caffeine 30 mg. **Actions and Uses:** Analgesic, antitussive. Indicated for the relief of mild-to-moderate pain. **Dosage and Administration:** 1 or 2 tablets every four to six hours, or as required to relieve pain. **Precautions and Side Effects:** The habit-forming potentialities of Anexsia-D are less than those of morphine and greater than those of codeine. The usual precautions should be observed as with other opiate analgesics. Anexsia-D should be used with caution in patients with known idiosyncrasies to aspirin and phenacetin and in those with blood dyscrasias. It is generally well tolerated, but occasionally gastric upset or constipation may occur. **How Supplied:** Bottles of 100 and 1000 tablets. **Caution:** Federal law prohibits dispensing without prescription.

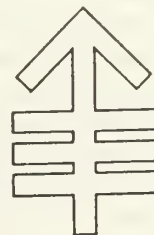
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# CANCER TOPICS



PAUL H. O'BRIEN, M.D., F.A.C.S.\*

## UNPROVEN CANCER REMEDIES

The collection of diseases known as cancer has become in the past twenty-five years an acceptable topic for public discussion. It is most appropriate that such a popularization of this disease has been accomplished in that too often the patient's fear of cancer has represented a greater threat to his well-being than the disease process itself.

Standard treatments of cancer by radical surgery, radiotherapy, or chemotherapy are also a fearsome thing to the cancer patient. Unfortunately, this fear sends many people seeking unproven methods of treatment.

The late Roald Grant characterized these fears as: (1) the fear that all cancers are incurable and, therefore legitimate treatment useless; (2) fear of expense, which leads many unfortunates to use unproven remedies rather than place themselves in the hands of reputable physicians; (3) fear of surgery or radiation therapy; (4) fear of social stigma in that there are, unfortunately, population centers in this country where it is considered a disgrace to have cancer; and finally (5) fear that their own doctor has given up hope, which drives the patient to desperate measures.

Unproven remedies in the treatment of cancer are ancient. The first such cancer remedy recorded in the United States was in 1748, when the House of Burgesses

passed a resolution for a clinical trial of Mary Johnson's "receipt of curing cancer," which consisted of garden sorrel, celandine, persimmon bark, and spring water.

The proponents of unproven methods of cancer management have certain common features: (1) They are isolated from established scientific centers. (2) Their channels of communication are irregular. (3) All can document a hostile prejudice from organized medicine. (4) Examples of original thinkers in the past who suffered for their beliefs are cited frequently. (5) Records are scanty or nonexistent. (6) The method of treatment is secret or the method of preparation of the therapeutic compound is usually secret. (7) Biopsy verification in cancer diagnosis is frequently discounted. (8) Proponents are often the possessors of multiple unusual degrees such as N.D. (Doctor of Naturopathy), Ph.N. (Philosopher of Naturopathy), DABB-A (Diplomate of American Board of Bio-Analysts), or Ms.D. (Doctor of Metaphysics).

I have during the past year had multiple requests on information concerning the drug Laetrile. Laetrile was developed by Ernst T. Krebs, Sr., M.D., for the treatment of advanced cancer around 1920. Improved results were described from the substance which has been described as a betacyanogenetic glucoside derived from apricot kernels. The substance was toxic and not generally used. In 1952 Dr. Krebs' son, E. T. Krebs, Jr., a biochemist, was

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Professor, Department of Surgery, Medical University of South Carolina, Charleston, South Carolina.

satisfied that he had been able to "make the empirical apricot formula safe for humans." In 1953 the Cancer Commission of the California Medical Association investigated Laetrile. Their findings were published in *California Medicine*.<sup>1</sup> They concluded from clinical evaluation, autopsy studies, and utilization of large doses of Laetrile on cancer in laboratory animals that Laetrile does not possess any observed chemotherapeutic control.

In May of 1965 the *Canadian Medical Association Journal* reached a similar conclusion that the product should not be considered as a palliative in cancer therapy.<sup>2</sup> The U. S. Food and Drug Administration in March 1963 concluded a study with the statement "the Food and Drug Administration has seen no competent scientific evidence that Laetrile is effective in the treatment of cancer." Follow-

ing this conclusion there was a permanent court injunction against further distribution of the drug within the continental United States.<sup>3</sup> Subsequent to this injunction in 1966, Dr. Krebs was found guilty of a contempt charge in shipping Laetrile within the United States.<sup>4</sup>

Patients of education and means are now obtaining the substance from their current point of distribution in Mexico. The popularity of such treatments has to be considered a failure on the part of reputable medicine responsible for the terminal cancer patient.

The single largest factor in the perpetuation and financing of such unproven cancer remedies is the failure of the responsible physician to provide adequate support, comfort, and guidance for the terminal cancer patient.

#### REFERENCES

1. The treatment of cancer with 'Laetriles'. A report by the Cancer Commission of the California Medical Association, Calif Med 78: 320-326, 1953.
2. Levi, L.; French, W. N.; Bickis, I. J.; and Henderson, W. D.: Laetrile: A study of its physicochemical and biochemical properties, Canad Med Ass J 92: 1057-1061, 1965.
3. Permanent injunction ordered against Laetrile promoter, FDA Report on Enforcement and Compliance, September 1965 Pp. 5-6.
4. Beta-Cyanogenetic Glucosides ("Laetriles") Agent for treatment of cancer. California Department of Public Health Foods and Drugs, Title 17. (Geister 63, No. 17—October 5, 1963), Pp. 188-188A.

**THE**  
**MEDICAL UNIVERSITY OF SOUTH CAROLINA**  
**PRESENTS**  
**CLINICAL CONCEPTS IN DIABETES MELLITUS**  
**NOVEMBER 7, 1973**

**MORNING PROGRAM**

JUVENILE DIABETES	Hulda Wohltmann, M. D. Medical University of South Carolina
ISLET TRANSPLANTS	Paul Lacy, M. D. Washington University School of Medicine
AUTOMATED PANCREAS	Stuart Soeldner, M. D. Harvard University Medical School
PANEL DISCUSSION	Maria Buse, M. D., Moderator Medical University of South Carolina
Luncheon with informal discussion by participants and faculty at their tables.	

**AFTERNOON PROGRAM**

ORAL HYPOGLYCEMIC AGENTS	John Colwell, M. D. Medical University of South Carolina
DIABETIC COMAS	Philip Felts, M. D. Vanderbilt University School of Medicine
HYPOGLYCEMIA	Sumer Pek, M. D. University of Alabama School of Medicine
PANEL DISCUSSION	John Buse, M. D., Moderator Medical University of South Carolina



**THE DEPARTMENT OF  
POSTGRADUATE MEDICINE  
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announces

Reservations Now Being Accepted  
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A fourteen-day cruise from New York  
aboard the luxurious and distinguished  
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Montserrat, Barbados, Trinidad, Martin-  
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of St. John and St. Thomas.

Faculty of the Albany Medical College  
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gram emphasizing medical topics of par-  
ticular interest to general internists and  
family practice physicians.

Request has been made for continuation  
study credit by the American Academy of  
Family Practice.

For information write to:

Frank M. Woolsey, Jr., M.D.

Department of Postgraduate Medicine

Albany Medical College

Albany, New York 12208

# adjunctive therapy for wound debridement

## HELPS TO REMOVE:

- Necrotic Tissue  
and Associated Odor

## HELPS PREPARE WOUND FOR:

- Granulation/Healing
- Granulation/Grafting



### CLEANSE WOUND

Thoroughly cleanse and irrigate wound area with sodium chloride or water solutions. Wound **MUST** be cleansed of antiseptics or heavy-metal antibacterials.



### THOROUGHLY MOISTEN

Thoroughly moisten wound area either through tubbing, showering, or wet soaks (e.g., sodium chloride or water solutions).



### APPLY ENZYME

Apply a layer of TRAVASE Ointment. Assure intimate contact with necrotic tissue and complete wound coverage.



### APPLY MOIST DRESSING

Apply loose moist dressings (most important with dry leathery eschar).



### CHANGE DRESSINGS

When changing dressing, gently wipe away the dissolved material. Repeat the procedure, including application of TRAVASE Ointment, 3 to 4 times per day for best results.

## Travase Ointment brand of Sutilains



**FLINT LABORATORIES**  
DIVISION OF TRAVENOL LABORATORIES, INC.  
Deerfield, Illinois 60015

Please see next page for prescribing information.

# Travase Ointment brand of Sutilains

## ulcers

TERRY V. CARLE, M.D., CLINICAL INSTRUCTOR, DEPT. OF PHYS. MED. & REHAB.,  
CRAIG REHABILITATION HOSPITAL, UNIVERSITY OF COLORADO



Before treatment, necrotic matter coated the inner surfaces of this decubitus ulcer.



After nine days of TRAVASE therapy, debridement is nearly complete and granulation evident.

## burns

DALE B. DUBIN, M.D., DIPLOMATE,  
AMERICAN BOARD OF PLASTIC SURGERY, TAMPA, FLORIDA



Before treatment . . .



48 hours following treatment with TRAVASE Ointment on right hand; left hand is control.

## Travase® Ointment

(brand of Sutilains)

**Indications:** For wound debridement, TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:

- Second and third degree burns,
- Decubitus ulcers,
- Incisional, traumatic, and pyogenic wounds,
- Ulcers secondary to peripheral vascular disease.

**Contraindications:** Application of TRAVASE Ointment is contraindicated in the following conditions:

- Wounds communicating with major body cavities,
- Wounds containing exposed major nerves or nervous tissue,
- Fungating neoplastic ulcers,
- Wounds in women of child-bearing potential—because of lack of laboratory evidence of effects of TRAVASE upon the developing fetus.

**Warning:** Do not permit TRAVASE Ointment to come into contact with the eyes. If contact is made, immediately rinse with copious amounts of water, preferably sterile.

**Precautions:** A moist environment is essential to optimal activity of the enzyme. Enzyme activity may also be impaired by certain agents (see package insert). Although there have been no reports of systemic allergic reaction in humans, studies have shown that there may be an antibody response in animals to absorbed enzyme material.

**Adverse Reactions:** Consist of mild, transient pain, paresthesias, bleeding and transient dermatitis. Pain usually can be controlled by administration of mild analgesics. Side effects severe enough to warrant discontinuation of therapy occasionally have occurred.

If bleeding or dermatitis occurs as a result of the application of TRAVASE Ointment, therapy should be discontinued. No systemic toxicity has been observed as a result of the topical application of TRAVASE Ointment.

**DOSAGE AND ADMINISTRATION: STRICT ADHERENCE TO THE FOLLOWING IS REQUIRED FOR EFFECTIVE RESULTS OF TREATMENT:**

1. Thoroughly cleanse and irrigate wound area with sodium chloride or water solutions. Wound **MUST** be cleansed of antiseptics or heavy-metal antibacterials which may denature enzyme or alter substrate characteristics (e.g., hexachlorophene, silver nitrate, benzalkonium chloride, nitrofurazone, etc.).
2. Thoroughly moisten wound area either through tubbing, showering, or wet soaks (e.g. sodium chloride or water solutions).
3. Apply TRAVASE Ointment in a thin layer assuring intimate contact with necrotic tissue and complete wound coverage extending  $\frac{1}{4}$  to  $\frac{1}{2}$  inch beyond the area to be debrided.
4. Apply loose wet dressings.
5. Repeat entire procedure 3 to 4 times per day for best results.



**FLINT LABORATORIES**  
DIVISION OF TRAVENOL LABORATORIES, INC.  
Deerfield, Illinois 60015





E. Kenneth Aycock, M.D., M.P.H.  
Commissioner

## SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

### COLD AGGLUTININ (*Mycoplasma pneumoniae*)

Twenty-four per cent of respiratory disease in adults and 9 per cent in children is PRIMARY ATYPICAL PNEUMONIA. The causative agent is *Mycoplasma pneumoniae* (Eaton Agent). One of the most popular determinations for this infection is the cold agglutinin test. This consists of adding Group O blood cells to the patient's serum and incubating in the cold. Agglutination of this red blood cell occurs in some patients with mycoplasma infection.

*This test is both non-specific and non-sensitive.* Only 30 per cent of patients with PRIMARY ATYPICAL PNEUMONIA will produce cold agglutinins (*low sensitivity*) and 20 per cent of patients with a positive cold agglutinin test have disease due to some other cause (*low specificity*). The results in children are even less reliable.

Some causes of a false positive cold agglutinin test are: certain hemolytic anemias, various blood dyscrasias, liver disease (including cirrhosis), peripheral vascular disease, mumps orchitis and trypanosomiasis.

The cold agglutinins associated with mycoplasma infection are distinct from antibodies demonstrated by tests which employ *M. pneumoniae* antigens. Cold agglutinins are readily removed from sera (at 4°C) by adding erythrocytes, but specific *M. pneumoniae* antibody is not diminished by this process. Conversely, mycoplasma antigens will remove specific *M. pneumoniae* antibodies, but not cold

agglutinins, from sera. There is no proven explanation to account for the rise in cold agglutinin titer associated with mycoplasma infections. Erythrocytes do not have antigens in common with the organism.

Proper handling and collection of the specimen to be tested for cold agglutinins is important. Since the cold agglutinins may be absorbed from the serum by the patient's own erythrocytes, the blood should be kept warm until the serum is removed. A warm syringe and tube should be used and the blood should be allowed to clot at 37°C before centrifugation. The serum may be refrigerated until the test is performed (up to two weeks), but freezing (—20°C) is preferred for storage. Sera should not be left at room temperature or mailed unrefrigerated, since the cold agglutinins disappear rapidly at room temperature.

The Bureau of Laboratories can isolate *M. pneumoniae* from throat washings and perform the complement fixation test for specific antibody. This antibody peaks in five to ten days and may persist for more than one year. As in most serological tests, an acute serum, collected as early as possible in the illness, and a convalescent serum, collected ten days to two weeks later, should be submitted.

A recent outbreak of mycoplasma infection on a South Carolina college campus is described in the *Journal of South Carolina Medical Association* 65: 117-118, 1969. Reprints are available.

# Synthroid<sup>®</sup>

(sodium levothyroxine)

## the smooth road to thyroid replacement therapy.

*Synthroid is T<sub>4</sub>.*  
It provides your patients with  
what is needed for complete  
thyroid replacement therapy.



Free Tab-Minder sample  
packages available  
from Flint Professional  
Services Department.

**Indications:** SYNTHROID (sodium levothyroxine) is specific replacement therapy for diminished or absent thyroid function resulting from primary or secondary atrophy of the gland, congenital defect, surgery, excessive radiation, or antithyroid drugs. Indications for SYNTHROID (sodium levothyroxine) **Tablets** include myxedema, hypothyroidism without myxedema, hypothyroidism in pregnancy, pediatric and geriatric hypothyroidism, hypopituitary hypothyroidism, simple (nontoxic) goiter, and reproductive disorders associated with hypothyroidism. SYNTHROID (sodium levothyroxine) **for Injection** is indicated for intravenous use in myxedematous coma and other thyroid dysfunctions where rapid replacement of the hormone is required. The injection is also indicated for intramuscular use in cases where the oral route is suspect or contraindicated due to existing conditions or to absorption defects, and when a rapid onset of effect is not desired.

**Precautions:** As with other thyroid preparations, an overdosage of SYNTHROID (sodium levothyroxine) may cause diarrhea or cramps, nervousness, tremors, tachycardia, vomiting and continued weight loss. These effects may begin after four or five days or may not become apparent for one to three weeks. Patients receiving the drug should be observed closely for signs of thyrotoxicosis. If indications of overdosage appear, discontinue medication for 2-6 days, then resume at a lower dosage level. In patients with diabetes mellitus, careful observations should be made for changes in insulin or other antidiabetic drug dosage requirements. If hypothyroidism is accompanied by adrenal insufficiency, such as Addison's Disease (chronic adrenocortical insufficiency), Simmonds's Disease (panhypopituitarism) or Cushing's syndrome (hyperadrenalism), these dysfunctions must be corrected prior to and during SYNTHROID (sodium levothyroxine) administration. The drug

should be administered with caution to patients with cardiovascular disease; development of chest pains or other aggravations of cardiovascular disease requires a reduction in dosage.

**Contraindications:** Thyrotoxicosis, acute myocardial infarction. **Side effects:** The effects of SYNTHROID (sodium levothyroxine) therapy are slow in being manifested. Side effects, when they do occur, are secondary to increased rates of body metabolism; sweating, heart palpitations with or without pain, leg cramps, and weight loss. Diarrhea, vomiting, and nervousness have also been observed. Myxedematous patients with heart disease have died from abrupt increases in dosage of thyroid drugs. Careful observation of the patient during the beginning of any thyroid therapy will alert the physician to any untoward effects.



It has been shown that *Synthroid* (T<sub>4</sub>) converts to T<sub>3</sub> at the cellular level to supply metabolic needs.<sup>1, 2</sup>

1 *Synthroid* is T<sub>4</sub>.

2 Because T<sub>4</sub> converts to T<sub>3</sub> at the cellular level, it provides full thyroid replacement at maintenance doses.<sup>1, 2</sup>

3 T<sub>4</sub> hormone content is controlled by chemical assay.

4 *Synthroid* is assayed chemically; no biologic test is necessary to measure potency.

5 *Synthroid* provides predictable results when used with current thyroid function tests.

6 *Synthroid* is the most prescribed brand name of thyroid in the U.S. and Canada.

7 Sodium levothyroxine in *Synthroid* tablets is chemically pure. It does not contain any animal gland parts.

8 When stored properly, *Synthroid* has a longer shelf life than desiccated thyroids.

9 On a daily basis, *Synthroid* is cost competitive with other thyroid products.

The smooth road to  
thyroid replacement therapy.

**Synthroid**<sup>®</sup>  
(sodium levothyroxine)

In most cases with side effects, a reduction of dosage followed by a more gradual adjustment upward will result in a more accurate indication of the patient's dosage requirements without the appearance of side effects.

**Dosage and Administration:** The activity of a 0.1 mg. SYNTHROID (sodium levothyroxine) TABLET is equivalent to approximately one grain thyroid, U.S.P. Administer SYNTHROID tablets as a single daily dose. In hypothyroidism without myxedema, the usual initial adult dose is 0.1 mg. daily, and may be increased by 0.1 mg. every 30 days until proper metabolic balance is attained. Clinical evaluation should be made monthly and PBI measurements about every 90 days. Final maintenance dosage will usually range from 0.2-0.4 mg. daily. In adult myxedema, starting dose should be 0.025 mg. daily. The

dose may be increased to 0.05 mg. after two weeks and to 0.1 mg. at the end of a second two weeks. The daily dose may be further increased at two-month intervals by 0.1 mg. until the optimum maintenance dose is reached (0.1-1.0 mg. daily).

**Supplied:** Tablets: 0.025 mg., 0.05 mg., 0.1 mg., 0.15 mg., 0.2 mg., 0.3 mg., 0.5 mg., scored and color-coded, in bottles of 100, 500, and 1000. Injection: 500 mcg. lyophilized active ingredient and 10 mg. of Mannitol, U.S.P., in 10 ml. single-dose vial, with 5 ml. vial of Sodium Chloride Injection, U.S.P., as a diluent. SYNTHROID (sodium levothyroxine) for Injection may be administered intravenously utilizing 200-400 mcg. of a solution containing 100 mcg. per ml. If significant improvement is not shown the following day, a repeat injection of 100-200 mcg. may be given.

1. Braverman, L. E., Ingbar, S. H., and Sterling, K.: Conversion of Thyroxine (T<sub>4</sub>) to Triiodothyronine (T<sub>3</sub>) in Athyreotic Human Subjects, *J. Clin. Invest.* 49:855-64, 1970.

2. Surks, M. I., Schadow, A. R., and Oppenheimer, J. H.: A New Radioimmunoassay for Plasma L-Triiodothyronine: Measurements in Thyroid Disease and in Patients Maintained on Hormonal Replacement. *J. Clin. Invest.* 51:3104-13, 1972.



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Blue Cross®  
Blue Shield®  
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THIS ANNOUNCEMENT WAS MAILED  
TO ALL SOUTH CAROLINA PHYSICIANS.

## **HOT LINE**

BULLETIN

September 14, 1973

### CLAIMS WORKSHOPS

Beginning in October, our Provider Services Division will be holding regular monthly Blue Shield claims workshops on the third Thursday of every month. The workshops will last from 1:00 P.M. until 4:00 P.M. They will be held at our Home Office building in Columbia, which is located on Interstate 20, at the Alpine Road exit.

The workshops are for physicians and their assistants who have any questions or who want general information regarding the filing of claims, codes and nomenclature, and administration of the Blue Shield program. If you plan to attend a workshop, please bring with you your Blue Shield Participating Physician's Manual and the 1973 Surgical and Non-Surgical Medicare and Medicaid Manuals which we recently mailed to your office.

Please complete the bottom section of this page and return it in the enclosed envelope one week prior to the workshop that you plan to attend. The first thirty (30) reservations for each workshop will be accepted. If the workshop is filled at the time we receive your reply, we will notify you of that fact so that you may make a reservation for the following month.

---

### REPLY SHEET FOR BLUE SHIELD CLAIMS WORKSHOPS (Please Print or Type)

I (we) plan to attend the workshop on the following date:

Thursday, October 18, 1973 _____	Thursday, January 17, 1974 _____
Thursday, November 15, 1973 _____	Thursday, February 21, 1974 _____
Thursday, December 20, 1973 _____	Thursday, March 21, 1973 _____

Physician (s) Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Type Practice: \_\_\_\_\_

Number of Persons Attending: \_\_\_\_\_

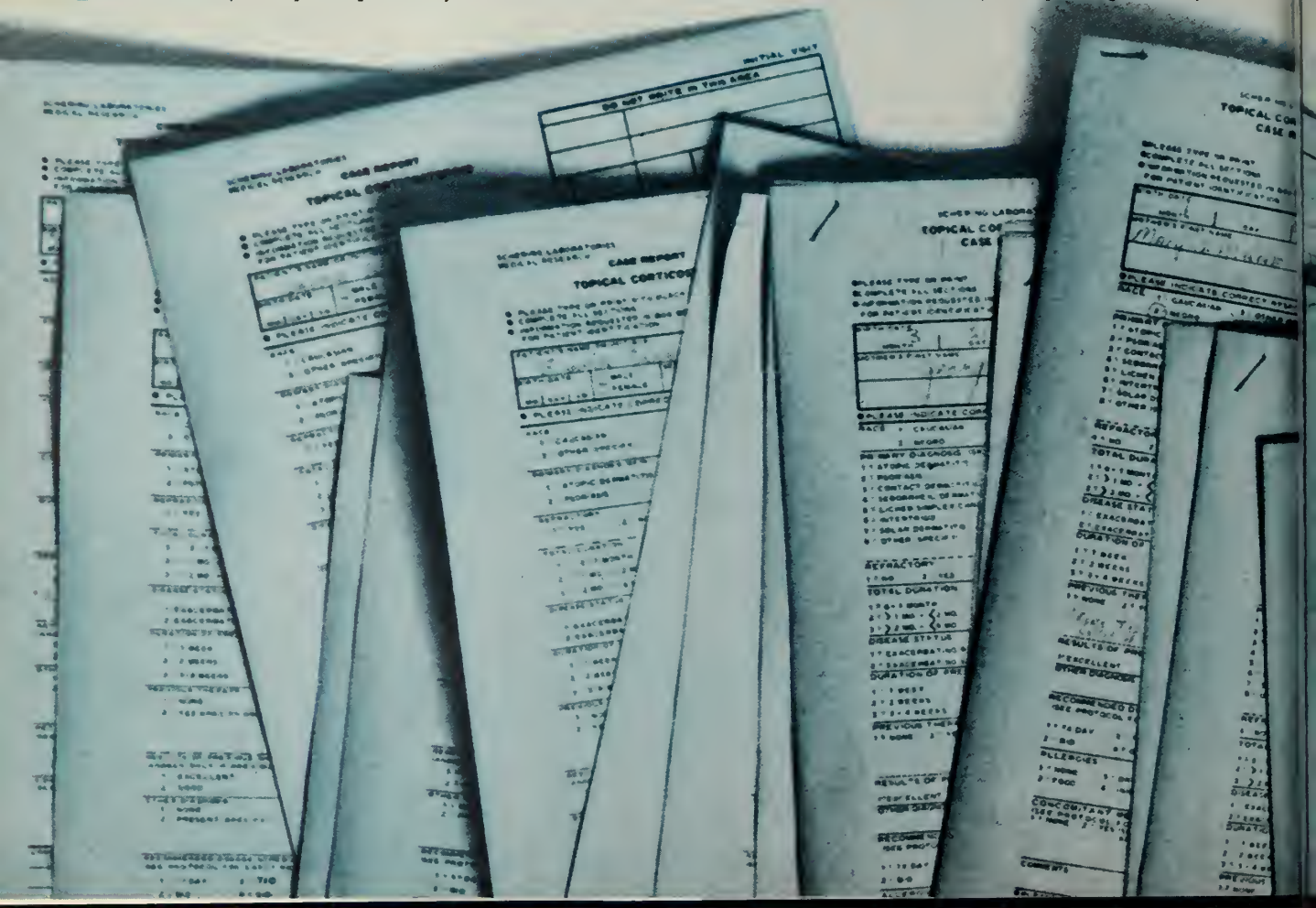
# A topical steroid that has clinically succeeded

*in study...after study...after study*<sup>1-6</sup>

Excellent/good results

**85%** in psoriasis  
(150 of 177 patients)<sup>1</sup>

**92%** in atopic eczema  
(231 of 251 patients)<sup>1</sup>





# Valisone®

# betamethasone valerate (0.1%) Cream/Ointment

**96%** in contact dermatitis  
(81 of 84 patients)<sup>1</sup>

**References:** (1) Files of Headquarters Medical Research Division, Schering Corporation. (2) Carter, V. H., and Noojin, R. O.: *Curr. Therap. Res.* 9:253, 1967. (3) Falk, M. S.: *Cutis* 2:788, 1966. (4) Goldblum, R. W.: *Pennsylvania Med.* 69:50, 1966. (5) Niernan, M. M.: *J. Indiana M. A.* 10:1184, 1966. (6) Zimmerman, E. H.: *Arch. Dermat.* 95:514, 1967.

SLR-

**He's  
Back**

**Hire the  
Disabled  
Veteran**

**The President's Committee  
on Employment of the Handicapped  
Washington, D.C. 20210**

# Rondomycin® (methacycline HCl)

**CONTRAINDICATIONS:** Hypersensitivity to any of the tetracyclines.

**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

**Usage in pregnancy.** (See above **WARNINGS** about use during tooth development.) Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS:** **Gastrointestinal** (oral and parenteral forms): anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes; exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).

**Renal toxicity:** rise in BUN, apparently dose related (See **WARNINGS**).

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE:** **Adults**—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea. In uncomplicated gonorrhea, when penicillin is contraindicated, 'Rondomycin' (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up, including laboratory tests, is recommended.

Eaton Agent pneumonia, 900 mg daily for six days.

**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy.** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

**SUPPLIED:** 'Rondomycin' (methacycline HCl) 150 mg and 300 mg capsules, syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 6/73



WALLACE PHARMACEUTICALS  
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**When the focus is on bronchitis due to  
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**Delivers from the very first dose:**

**Studies show that after the first dose serum levels rapidly rise above  
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\*Since many strains are known to be resistant, routine sensitivity testing is recommended.



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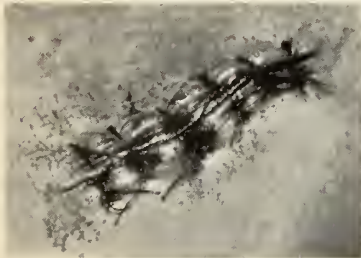
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Empirin Compound with Codeine **No. 3**, codeine phosphate\* 32.4 mg. (gr. 1/2); **No. 4**, codeine phosphate\* 64.8 mg. (gr. 1). \*Warning—may be habit-forming. Each tablet also contains: aspirin gr. 3 1/2, phenacetin gr. 2 1/2, caffeine gr. 1/2.



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Urologist—will finish residency July, 1974. University trained. Interested in locating in South Carolina. Please reply to Box B, SCMA, 113 North Coit Street, Florence, S. C. 29501

GENERAL SURGEON — available August 1974. University trained, Board Eligible. Currently serving in armed forces. Interested in any opportunities for practice in South Carolina. Please reply to Box D, SCMA, 113 North Coit Street, Florence, S. C. 29501

### **OPHTHALMOLOGIST AVAILABLE**

Ophthalmologist—will complete military duty summer 1974. University trained, interested in group, solo, or association type practice. Reply to Box C, SCMA, 113 North Coit Street, Florence, S. C. 29501

GENERAL SURGEON — available July 1974. Long experience, desires to relocate in South Carolina. Currently in residency program. Please reply to Box E, SCMA, 113 North Coit St., Florence, S. C. 29501

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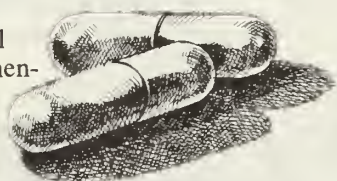




**You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®**

## **Helps reduce anxiety-related G.I. symptoms**

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition. Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



## **Patient-oriented dosage — up to 8 capsules daily in divided doses**

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

## **To help relieve anxiety-linked symptoms in gastritis and duodenitis**

**adjunctive Librax®**



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.



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Each 30cc. contains:

Kaolin . . . . .	6.0 g.
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Atropine sulfate . . . . .	0.0194 mg.
Hyoscine hydrobromide . . . . .	0.0065 mg.
Powdered opium, USP . . . . .	24.0 mg.
(equivalent to paregoric 6 ml.)	
(warning: may be habit forming)	

Sodium benzoate  
(preservative). . . . . 60.0 mg

Alcohol, 5%

Ⓒ Available on oral prescription or without prescription  
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The coughing season is here again. Time to rely on the four Robitussins and Cough Calmers to help clear the lower respiratory tract. All contain glyceryl guaiacolate, the efficient expectorant that works systemically to help increase the output of lower respiratory tract fluid. The enhanced flow of less viscid secretions soothes the tracheobronchial mucosa, promotes ciliary action, and makes thick, inspissated mucus less viscid and easier to raise. Available on your prescription or recommendation.

For coughs of colds and "flu"

## ROBITUSSIN<sup>®</sup>

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Glyceryl guaiacolate ..... 100 mg.  
Alcohol, 3.5%

For unproductive allergic coughs

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Non-narcotic for 6-8 hr. cough control

## ROBITUSSIN-DM<sup>®</sup>

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Dextromethorphan hydrobromide ..... 15 mg.  
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Robitussin-DM in solid form for "coughs on the go"

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Relieves cough, clears sinuses and nasal passages—  
keeps them "drip-dry" but not bone dry

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Each 5 cc. contains:

Glyceryl guaiacolate ..... 100 mg.  
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Select the Robitussin<sup>®</sup>  
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ROBITUSSIN-DM <sup>®</sup>	●	●		●		●
ROBITUSSIN-PE <sup>®</sup>	●				●	●
COUGH CALMERS <sup>®</sup>	■	■		■		■

Use this handy chart as a guide in selecting the formula that provides the benefits you want for your patient.

**A-H-ROBINS**

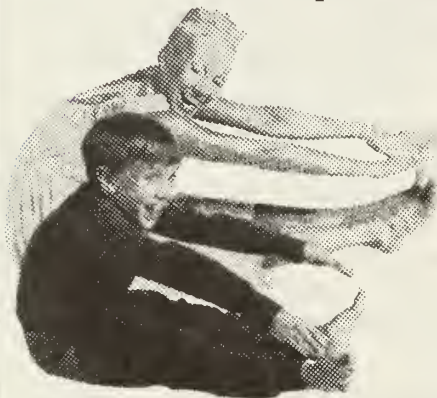
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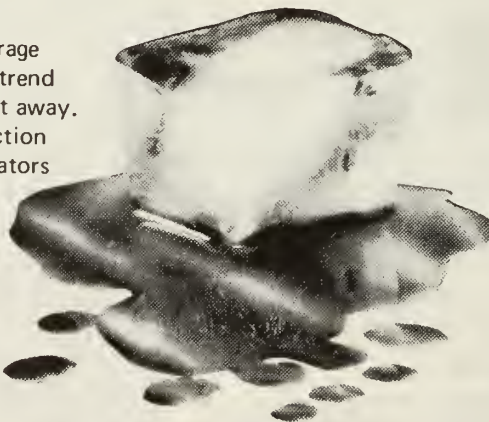
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For over 13 years, Librium has been recognized for its excellent benefits-to-risks ratio, an asset in the *higher* dosage ranges as in more common clinical applications. Thus, the frequency of dosage with Librium 25 mg can be flexibly adjusted to the needs and response of the individual patient, up to 100 mg daily if required. Total daily dosage for the elderly and debilitated should not exceed 20 mg. When severe anxiety has been reduced, Librium dosage should be correspondingly reduced or discontinued entirely.



basic support  
in severe anxiety  
**Librium® 25 mg**  
(chlordiazepoxide HCl)  
1 capsule t.i.d./q.i.d.



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Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also countered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea, constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, requiring periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

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THE NEW ENGLAND JOURNAL OF MEDICINE

# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

PEDIATRIC RESPIRATORY DISEASE  
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BRONCHIAL ASTHMA

ME 69

NOVEMBER, 1973

NUMBER 11

## **Two forms of Cordran<sup>®</sup>** **Flurandrenolide**



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300115





Everybody experiences psychic tension.



Most people can handle this tension.



Some people develop excessive psychic tension and need your counseling



and a few may need counseling  
*and* the psychotropic action of Valium® (diazepam).



Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect.

**Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

# Valium® (diazepam)

To help you manage excessive psychic tension

# Pinworm therapy is often a family affair



**Contraindications:** History of hypersensitivity to thiabendazole.

**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.

**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction,

patients should be carefully monitored.

**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live *Ascaris* in the mouth and nose. Hypersensitivity reactions



## INDICATION | DOSAGE SCHEDULE

MINTEZOL® (Thiabendazole, MSD) has demonstrated effectiveness against a broad spectrum of nematode infections. Dosages are weight related. For your convenience, the information in the weight-dose chart below is included in the full prescribing information and in the 1973 edition of PDR.

*The recommended maximum daily dose of MINTEZOL is 3 g (6 tablets).*

MINTEZOL should be given after meals if possible. Dietary restriction, complementary medications, and cleansing enemas are not needed.

The usual dosage schedule for all conditions is two doses per day. The size of the dose is determined by the patient's weight.

Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	1/2
50	0.5	1
75	0.75	1 1/2
100	1.0	2
125	1.25	2 1/2
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days.  This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

\*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

# Chewable Tablets<sup>500 mg</sup> Mintezol<sup>®</sup> (THIABENDAZOLE | MSD)



so easy to take  
everyone in the family  
can keep to the  
regimen you prescribe

include: fever, facial flush, chills, conjunctival injection, angioedema, anaphylaxis, skin rashes, erythema multiforme (including Stevens-Johnson syndrome), and lymphadenopathy.  
**Supplied:** Chewable tablets, containing 500 mg thiabendazole, in boxes of 36, strip packaged, individually foil wrapped; Suspension, containing 500 mg thiabendazole per 5 ml, in bottles of 120 ml.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486



# *The Journal of The* **SOUTH CAROLINA** *Medical Association*

NOVEMBER, 1973—VOL. 69, NO. 11

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### **Contributions of Original Articles**

**Mailing address.**—Edw. E. Kimbrough, M.D., Editor, 2709 Laurel Street, Columbia, S. C. 29204.

**Length.**—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

**Manuscripts.**—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

**Illustrations.**—Ordinarily publication of 4 small illustrations or the equivalent accompanying an article will be paid for by The Journal. Any number beyond this must be paid for by the author except under unusual conditions. Illustrations should be sent as glossy prints or graphs in black ink with lettering large enough to show after reduction.

**References.**—Should conform to the following order: surname and initials of author, title of article in small letters, name of periodical, with volume, page, month, day of the month if weekly, and year—e.g.: Lee, G. S.: The heart rhythm following therapy with digitalis, *Arch Int Med* 44:554, Dec. 1942. They should be listed numerically in order of appearance in the text. Standard abbreviation for journals should be used. Note that periods are not used with these abbreviations as indicated by the Index Medicus. Other abbreviations should also be standard—e.g. mg, ml, Gm.

**Reprints.**—Reprints will be made for the author at established rates.



## acute arthritic inflammation...heat that freezes

In acute rheumatoid arthritis consider Tandearil. The anti-inflammatory action of Tandearil quickly helps reduce heat, pain, swelling, and stiffness. Results are usually seen in 3 or 4 days. Try it for a week when the symptoms defy aspirin control.

Remember that Tandearil is not a simple analgesic. It should not be used on patients responding to routine therapy. Before using, please read the prescribing information. It's summarized below.

## Tandearil® helps take the heat off oxyphenbutazone NF Geigy

Tablets of 100 mg.

**Important Note:** This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasias); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

**Indications:** Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

**Contraindications:** Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

**Warnings:** Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against po-

tential risk of severe, even fatal, reactions.

The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonamides, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

**Precautions:** The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

**Adverse Reactions:** This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, ulcer G.I. bleeding with anemia,

gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement. (B)98-146-800-F (10/71)

For complete details, including dosage, please see full prescribing information.

GEIGY Pharmaceuticals  
Division of CIBA-GEIGY Corporation  
Ardsley, New York 10502





# More than sleep..

your choice of sleep medication  
is wisely based on more than  
sleep-inducing potential

## sleep with relative safety

Chronic tolerance studies have confirmed the relative safety of Dalmane (flurazepam HCl); no depression of cardiac or respiratory function was noted in patients administered recommended or higher doses for as long as 90 consecutive nights.

In most instances when adverse reactions were reported, they were mild, infrequent and seldom required discontinuance of therapy. Morning "hang-over" with Dalmane has been relatively infrequent. Dizziness, drowsiness, lightheadedness and the like have been the side effects noted most frequently, particularly in the elderly and debilitated. (An initial dose of Dalmane 15 mg should be prescribed for these patients.)

sleep for 7 to 8 hours  
without need to  
repeat dosage

No sleep medication has been as rigorously evaluated in the sleep research laboratory as Dalmane. Insomnia patients given one 30-mg capsule of Dalmane at bedtime, on average: fell asleep within 17 minutes, had fewer nighttime awakenings, spent less time awake after sleep onset, and slept for 7 to 8 hours with no need to repeat dosage during the night.



sleep with  
consistency

Dalmane has been shown to be consistently effective even during consecutive nights of administration, with no need to increase dosage.

Dalmane (flurazepam HCl) is a distinctive sleep medication—a benzodiazepine specifically indicated for insomnia. It is not a barbiturate or methaqualone, nor is it related chemically to any other available hypnotic.

When your evaluation of insomnia indicates the need for a sleep medication, consider Dalmane—a single entity nonnarcotic, non-barbiturate agent proved effective and relatively safe for relief of insomnia.

# DALMANE<sup>®</sup>

(flurazepam HCl)

## When restful sleep is indicated

One 30-mg capsule *h.s.*—usual adult dosage  
(15 mg may suffice in some patients).

One 15-mg capsule *h.s.*—initial dosage for elderly or  
debilitated patients.

**Before prescribing Dalmane (flurazepam HCl), please consult Complete Product Information, a summary of which follows:**

**Indications:** Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening, in patients with recurring insomnia or poor sleeping habits, and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

**Contraindications:** Known hypersensitivity to flurazepam HCl

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

**Precautions:** In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

**Adverse Reactions:** Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdose, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, e.g., excitement, stimulation and hyperactivity, have also been reported in rare instances.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

**Supplied:** Capsules containing 15 mg or 30 mg flurazepam HCl



ROCHE LABORATORIES  
Div., Hoffmann-La Roche Inc.  
Nutley, New Jersey 07110

# **It's time for action to defend the laws and regulations that protect your patients against drug substitution.**

**These professional and trade organizations are united  
in supporting antisubstitution statutes and regulations:**

The American Academy of Dermatology

The Board of Directors of the  
American Academy of Family  
Physicians

The Executive Board of the  
American Academy of Neurology

The Committee on Drugs of the  
American Academy of Pediatrics

The American College of Allergists

The Executive Committee of the  
American College of Obstetricians  
and Gynecologists

The Board of Regents of the  
American College of Physicians

The Board of Trustees of the  
American Dental Association

The Board of Trustees of the  
American Medical Association

The American Psychiatric Association

The Executive Committee of the  
National Association of Retail  
Druggists

The Board of Directors of the  
Pharmaceutical Manufacturers  
Association

The National Wholesale Druggists'  
Association



## Joint Statement on Antisubstitution Laws and Regulations

The purpose of this statement is to affirm the support of the participating organizations for the laws, regulations and professional traditions which prohibit the unauthorized substitution of drug products.

Traditionally, physicians, dentists and pharmacists have worked cooperatively to serve the best interests of patients. Productive cooperation has been achieved through mutual respect as well as a common concern for the ideals of public service. This mutual respect has been reflected, in part, by joint support over the years for the adoption and enforcement of laws and regulations specifically prohibiting unauthorized substitution and encouraging joint discussion and selection of the source of supply of drug products. The basic principles of medical, dental and pharmacy practice are thus utilized and preserved in the interest of patient welfare.

The antisubstitution laws have not obstructed enhancement of the professional status of pharmacy any more than they have in and of themselves guaranteed absolute protection from unsafe drugs, or freed physicians, dentists and pharmacists from their responsibilities to patients. As a practical matter, however, such laws and regulations encourage inter-professional communications regarding drug product selection and assure each profession the opportunity to exercise fully its expertise in drug usage, to the advantage of patients.

Physicians and dentists should be urged to increase the frequency and regularity of their contacts with pharmacists in selection of quality drug products, recognizing that

economies to patients can be improved through such communication, taking into account the patients' needs. The pharmacist's knowledge of the chemical characteristics of drugs, their mode of action, toxic properties and other characteristics that assist in making drug selection decisions should be utilized to the fullest extent practicable by physicians and dentists in serving their patients.

Since drug product selection entails knowledge derived from clinical experience, the physician's and dentist's roles in product selection remain primary and do not permit delegation of decisions requiring medical and dental judgments. A broader role in therapy will evolve for pharmacists as improved understanding and cooperation among the professions continue to grow.

There has been no evidence that there are convincing reasons to modify or repeal existing laws and regulations prohibiting the unauthorized substitution of another drug product for the one specified by a prescriber. It is our belief that such laws and regulations merit the joint support of the medical, dental and pharmaceutical professions and the pharmaceutical industry.

Add your opinion to the weight of other professionals and send it to your state assemblyman or legislator.

*Pharmaceutical Manufacturers Association  
1155 Fifteenth Street, N.W., Washington, D. C. 20005*





# ROCHE announces new

# BACTRIM<sup>TM</sup>

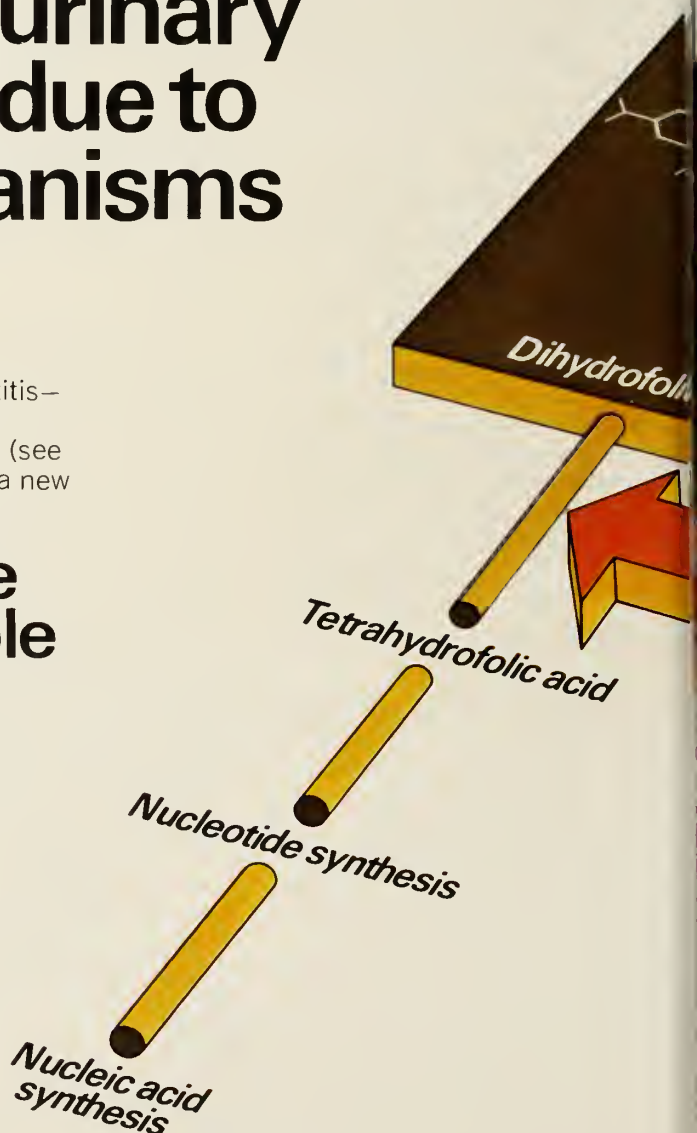
Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

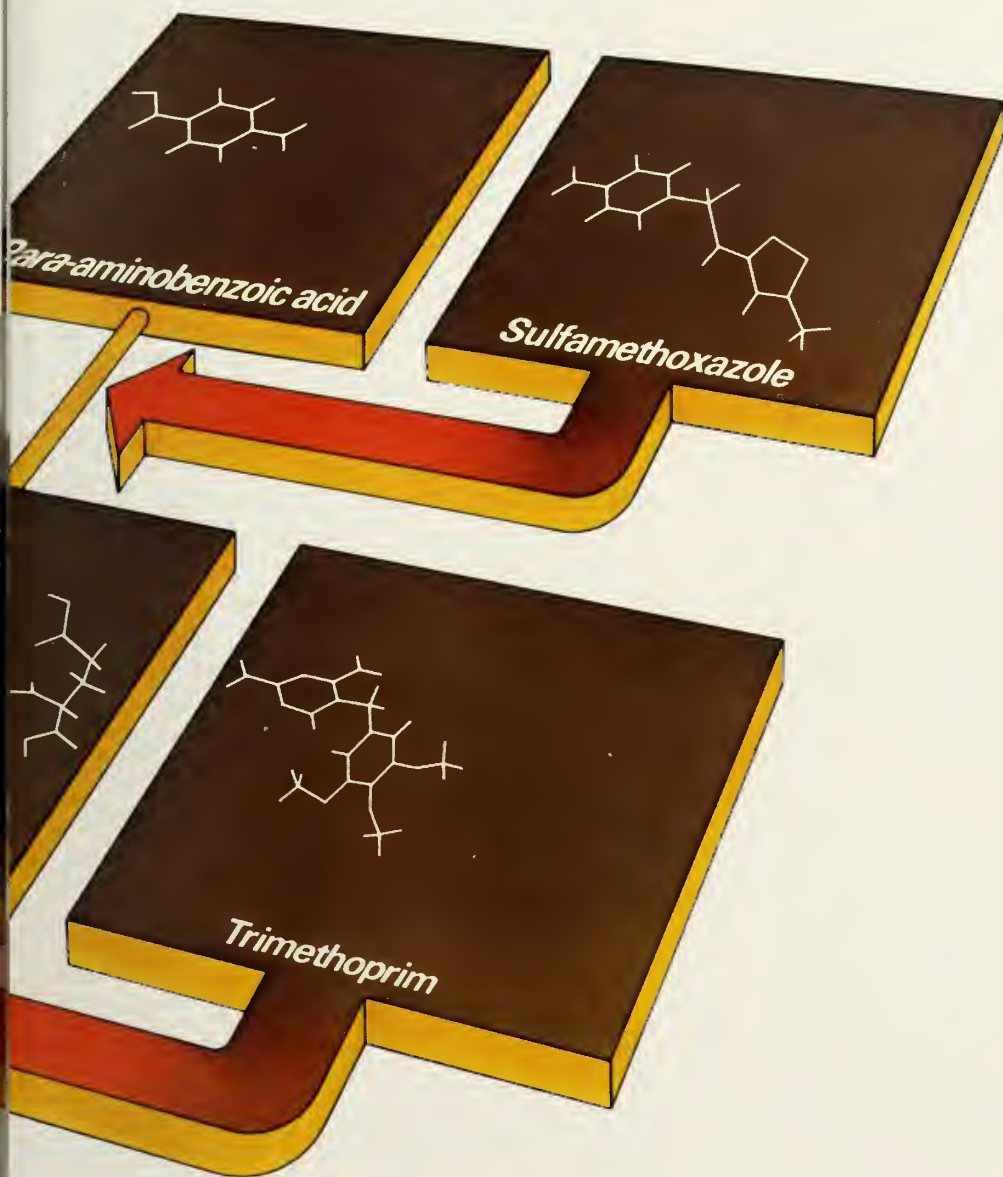
## a new type of antibacterial for a two-pronged attack against chronic urinary tract infections due to susceptible organisms

Bactrim is highly effective in the treatment of these infections — primarily pyelonephritis, pyelitis and cystitis — when due to susceptible organisms. This efficacy is related to the unique mode of action against bacteria (see illustration), an action that, in effect, makes Bactrim a new type of antibacterial.

### Bactrim interrupts the life cycle of susceptible bacteria

*Unique mode of action interrupts the life cycle at two important points, thereby impeding the production of nucleic acids and proteins essential to these bacteria. These consecutive interruptions occur because sulfamethoxazole and trimethoprim resemble naturally existing substrates. By competitive replacement of these substrates, they inhibit further synthesis.*





new **BACTRIM**<sup>TM</sup>

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

**for chronic urinary tract infections**

Before prescribing, please see complete product information on last page of advertisement.

## Excellent clinical response in chronic urinary tract infections even with obstructive complications

A multiclinic, double-blind study\* of response to a ten-day course of therapy in 471† patients with chronic urinary tract infections demonstrated the superiority of Bactrim. On the 10th day after initiation of therapy, 91.7% (of 168 patients) showed significant bacteriological response to Bactrim, compared with 81.2% (of 144 patients) to trimethoprim and 64.5% (of 155 patients) to sulfamethoxazole. More than half of these patients had obstructive complications.

## Excellent response maintained

Bactrim proved equally impressive in maintaining this bacteriological response. In the above study, after a ten-day course of therapy with Bactrim, 68.4% of patients with chronic urinary tract infections *maintained* response for up to 42 consecutive days, compared with 59.7% with trimethoprim and 44.4% with sulfamethoxazole. These results are particularly noteworthy considering the number of patients with obstructive complications—cases regarded as being notoriously difficult to treat.

## Prescribing considerations

**Clinical Limitations:** Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections. Not recommended for children under twelve.

**Contraindications:** Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period.

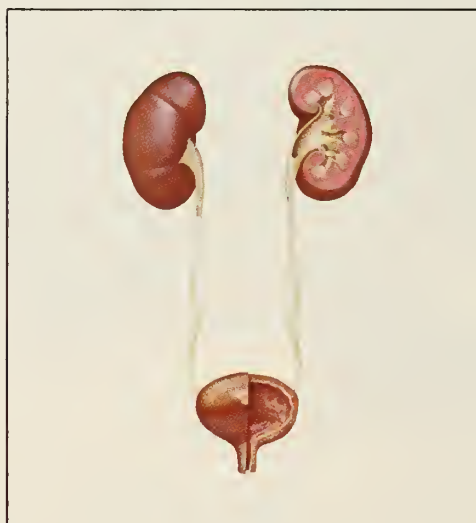
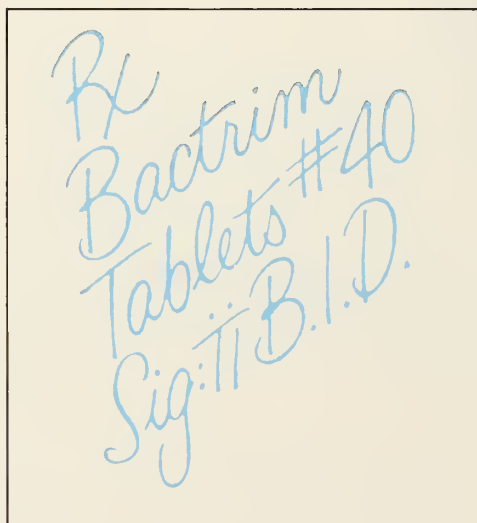
**Warnings and Precautions:** Both sulfamethoxazole and trimethoprim have been reported to interfere with hematopoiesis. Complete blood counts should be done frequently. If a significant reduction in the count of any formed blood element is noted, Bactrim should be discontinued. Bactrim should be given with caution to patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. Maintain adequate fluid intake. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

**Adverse Effects:** Among the most common side effects are nausea, vomiting, rash, leukopenia and elevations in SGOT and creatinine.

**Usual adult dosage: two tablets every twelve hours for 10 to 14 days; no loading dose required.**

\*Data on file, Hoffmann-La Roche Inc., Nutley, N.J. 07110

†4 patients not available for evaluation at day 10.



new **BACTRIM**<sup>TM</sup>

Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.

**for chronic urinary tract infections**



Roche Laboratories  
Division of Hoffmann-La Roche Inc  
Nutley, N.J. 07110

Before prescribing, please consult complete product information on facing page.



Complete Product Information:

**Description:** Bactrim is a synthetic antibacterial combination product, available in scored light-green tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole.

Trimethoprim is 2,4-diamino-5-(3,4,5-trimethoxybenzyl) pyrimidine. It is a white to light-yellow, odorless, bitter compound with a molecular weight of 290.3.

Sulfamethoxazole is N<sup>1</sup>-(5-methyl-3-isoxazolyl)sulfanilamide. It is an almost white in color, odorless, tasteless compound with a molecular weight of 253.28.

**Actions: Microbiology:** Sulfamethoxazole inhibits bacterial synthesis of dihydrofolic acid by competing with *para*-aminobenzoic acid. Trimethoprim blocks the production of tetrahydrofolic acid from dihydrofolic acid by binding to and reversibly inhibiting the required enzyme, dihydrofolate reductase. Thus, Bactrim blocks two consecutive steps in the biosynthesis of nucleic acids and proteins essential to many bacteria.

*In vitro* studies have shown that bacterial resistance develops more slowly with Bactrim than with trimethoprim or sulfamethoxazole alone.

*In vitro* serial dilution tests have shown that the spectrum of antibacterial activity of Bactrim includes the common urinary tract pathogens with the exception of *Pseudomonas aeruginosa*. The following organisms are usually susceptible: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and indole-positive proteus species.

Representative Minimum Inhibitory Concentration Values for Bactrim-Susceptible Organisms (MIC—mcg/ml)				
Bacteria	Trimethoprim alone	Sulfamethoxazole alone	TMP/SMX (1:20) TMP SMX	
<i>Escherichia coli</i>	0.05—1.5	1.0 —245	0.05—0.5	0.95— 9.5
<i>Proteus</i> spp. indole positive	0.5 —5.0	7.35 —300	0.05—1.5	0.95—28.5
<i>Proteus mirabilis</i>	0.5 —1.5	7.35 — 30	0.05—0.15	0.95— 2.85
<i>Klebsiella-Enterobacter</i>	0.15—5.0	0.735—245	0.05—1.5	0.95—28.5

**Human Pharmacology:** Bactrim is rapidly absorbed following oral administration. The blood levels of trimethoprim and sulfamethoxazole are similar to those achieved when each component is given alone. Peak blood levels for the individual components occur one to four hours after oral administration. The half-lives of sulfamethoxazole and trimethoprim, 10 and 16 hours respectively, are relatively the same regardless of whether these compounds are administered as individual components or as Bactrim. Detectable amounts of trimethoprim and sulfamethoxazole are present in the blood 24 hours after drug administration. Free sulfamethoxazole and trimethoprim blood levels are proportionately dose-dependent. On repeated administration, the steady-state ratio of trimethoprim to sulfamethoxazole levels in the blood is about 1:20.

Sulfamethoxazole exists in the blood as free, conjugated and protein-bound forms; trimethoprim is present as free, protein-bound and metabolized forms. The free forms are considered to be the therapeutically active forms. Approximately 44 percent of trimethoprim and 70 percent of sulfamethoxazole are protein-bound in the blood. The presence of 10 mg percent sulfamethoxazole in plasma decreases the protein binding of trimethoprim to an insignificant degree; trimethoprim does not influence the protein binding of sulfamethoxazole.

Excretion of Bactrim is chiefly by the kidneys through both glomerular filtration and tubular secretion. Urine concentrations of both sulfamethoxazole and trimethoprim are considerably higher than are the concentrations in the blood. When administered together as in Bactrim, neither sulfamethoxazole nor trimethoprim affects the urinary excretion pattern of the other.

**Indications:** Chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, and, less frequently, indole-positive proteus species).

**Important note:** Currently, the increasing frequency of resistant organisms is a limitation of the usefulness of all antibacterial agents, especially in the treatment of chronic and recurrent urinary tract infections.

**Contraindications:** Hypersensitivity to trimethoprim or sulfonamides. Pregnancy and during the nursing period (see Reproduction Studies).

**Warnings:** Deaths associated with the administration of sulfonamides have been reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Experience with trimethoprim alone is much more limited, but it has been reported to interfere with hematopoiesis in occasional patients. In elderly patients concurrently receiving certain diuretics, primarily thiazides, an increased incidence of thrombopenia with purpura has been reported.

The presence of clinical signs such as sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. Complete blood counts should be done frequently in patients receiving Bactrim. If a significant reduction in the count of any formed blood element is noted, Bactrim should be discontinued.

At the present time, there is insufficient clinical information on the use of Bactrim in infants and children under 12 years of age to recommend its use.

**Precautions:** Bactrim should be given with caution to patients with impaired renal or hepatic function, to those with possible folate deficiency and to those with severe allergy or bronchial asthma. In glucose-6-phosphate dehydrogenase-deficient individuals, hemolysis may occur. This reaction is frequently dose-related. Adequate fluid intake must be maintained in order to prevent crystalluria and stone formation. Urinalyses with careful microscopic examination and renal function tests should be performed during therapy, particularly for those patients with impaired renal function.

**Adverse Reactions:** For completeness, all major reactions to sulfonamides and to trimethoprim are included below, even though they may not have been reported with Bactrim.

**Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia.

**Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis.

**Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis.

**C.N.S. reactions:** Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness.

**Miscellaneous reactions:** Drug fever, chills, and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L. E. phenomenon have occurred.

The sulfonamides bear certain chemical similarities to some goitrogens, diuretics (acetazolamide and the thiazides) and oral hypoglycemic agents. Goiter production, diuresis and hypoglycemia have occurred rarely in patients receiving sulfonamides. Cross-sensitivity may exist with these agents. Rats appear to be especially susceptible to the goitrogenic effects of sulfonamides, and long-term administration has produced thyroid malignancies in the species.

**Dosage and Administration:** Not recommended for use in children under 12 years of age.

The usual adult dosage is two tablets every 12 hours for 10 to 14 days.

For patients with renal impairment:

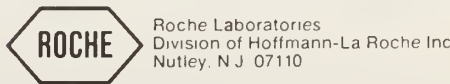
Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	2 tablets every 24 hours
Below 15	Use not recommended

**How Supplied:** Tablets, containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 1000; Prescription Paks of 40, available singly and in trays of 10. Imprint on tablets: ROCHE 50.

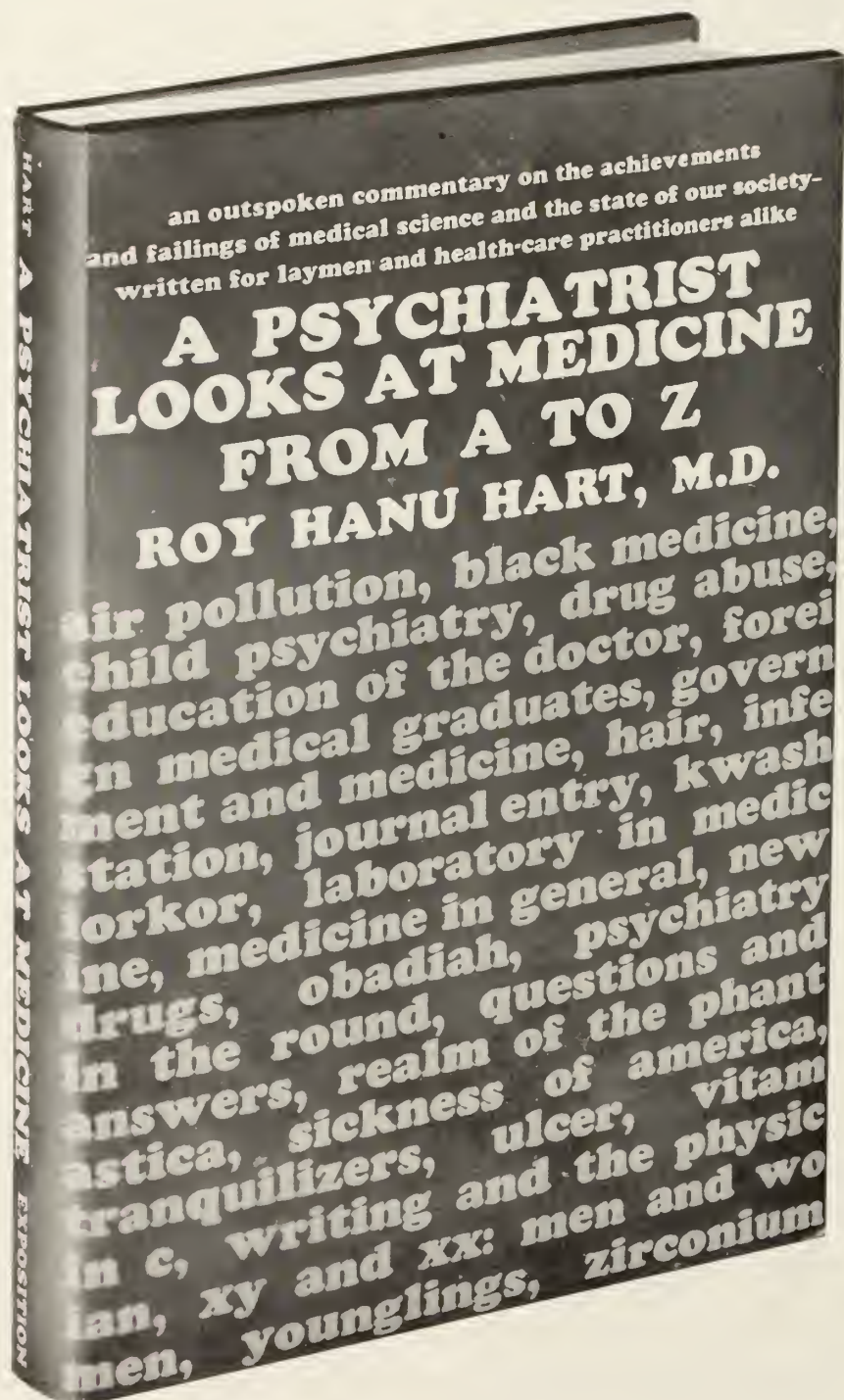
**Reproduction Studies:** In rats, doses of 533 mg/kg sulfamethoxazole or 200 mg/kg trimethoprim produced teratological effects manifested mainly as cleft palates. The highest dose which did not cause cleft palates in rats was 512 mg/kg sulfamethoxazole or 192 mg/kg trimethoprim when administered separately. In two studies in rats, no teratology was observed when 512 mg/kg of sulfamethoxazole was used in combination with 128 mg/kg of trimethoprim. However, in one study, cleft palates were observed in one litter out of 9 when 355 mg/kg of sulfamethoxazole was used in combination with 88 mg/kg of trimethoprim.

In rabbits, trimethoprim administered by intubation from days 8 to 16 of pregnancy at dosages up to 500 mg/kg resulted in higher incidences of dead and resorbed fetuses, particularly at 500 mg/kg. However, there were no significant drug-related teratological effects.

**BACTRIM™**  
Each tablet contains 80 mg trimethoprim and 400 mg sulfamethoxazole.



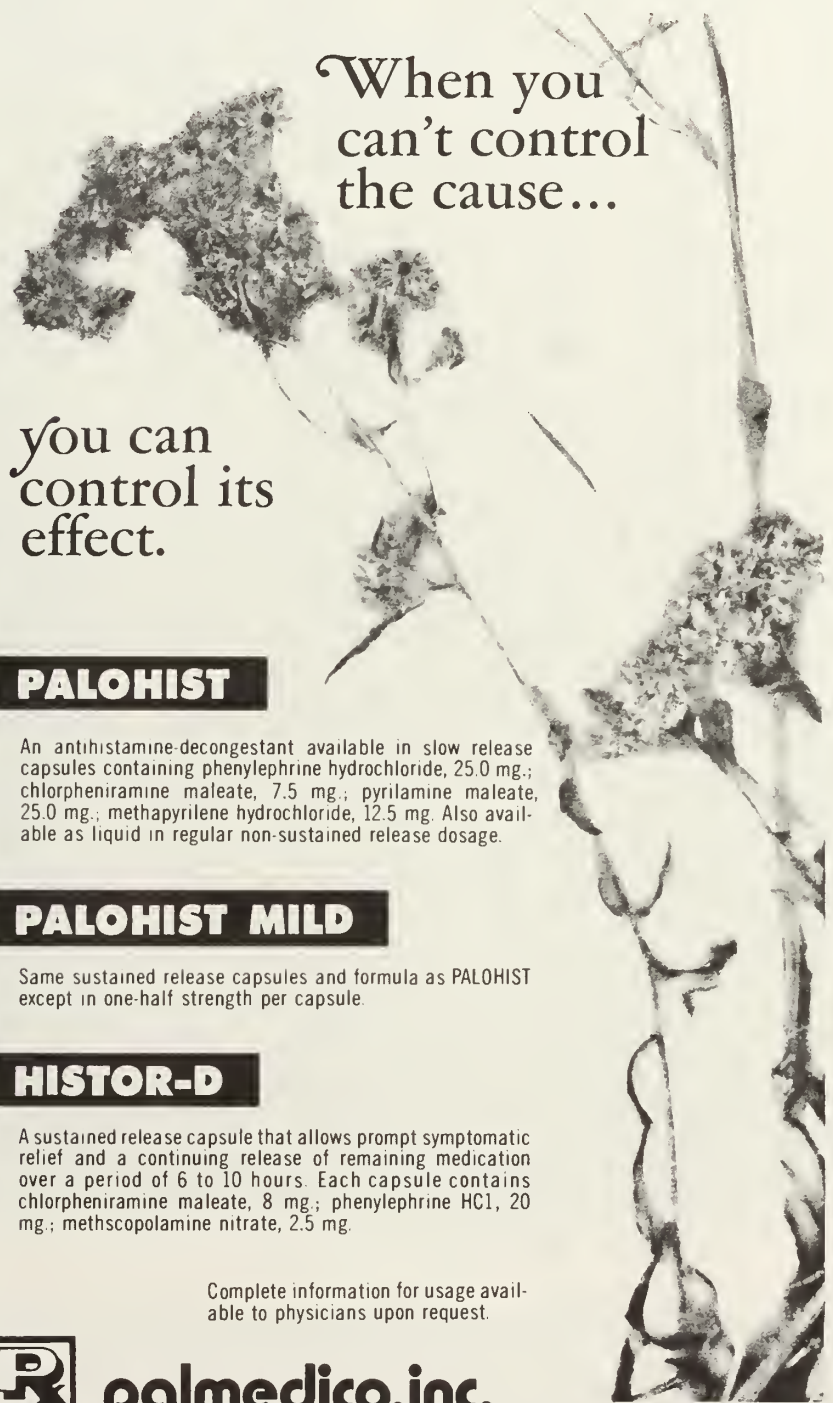
MUCH OF IT WAS WRITTEN BY THE  
AUTHOR WHEN HE WAS WITH THE  
MEDICAL UNIVERSITY OF SOUTH  
CAROLINA.



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can't control  
the cause...

you can  
control its  
effect.

### **PALOHIST**

An antihistamine-decongestant available in slow release capsules containing phenylephrine hydrochloride, 25.0 mg.; chlorpheniramine maleate, 7.5 mg.; pyrilamine maleate, 25.0 mg.; methapyrilene hydrochloride, 12.5 mg. Also available as liquid in regular non-sustained release dosage.

### **PALOHIST MILD**

Same sustained release capsules and formula as PALOHIST except in one-half strength per capsule.

### **HISTOR-D**

A sustained release capsule that allows prompt symptomatic relief and a continuing release of remaining medication over a period of 6 to 10 hours. Each capsule contains chlorpheniramine maleate, 8 mg.; phenylephrine HCl, 20 mg.; methscopolamine nitrate, 2.5 mg.

Complete information for usage available to physicians upon request.



**palmedico, inc.**

ETHICAL PHARMACEUTICALS • P. O. DRAWER 3397 • COLUMBIA, S. C. 29203



# Gantanol® (sulfamethoxazole) and the

## 0.1 M.I.C.

**for three hours**  
Similar elongations  
occur regardless of  
antibacterial used.

## 1.0 M.I.C.

**for three hours**  
Similar midcell  
defects seen with  
increased antibac-  
terial concentrations.

## 10 M.I.C.

**for three hours**  
Similar spheroplast-  
like forms appear  
with high  
concentrations of  
the antibacterials.



E. coli + sulfamethoxazole



E. coli + tetracycline

## The Scanning Electron Microscope (SEM) reveals the effect

**The *in vitro* experiment.** These SEM photomicrographs were taken as part of a study exploring the effects of various antibacterials with different modes of action on the surface morphology of bacteria. The scanning electron microscope was used because of its ability to show three-dimensional views of organisms, enabling better definition and appreciation of surface morphology.

For this portion of the experiment, *E. coli* were exposed to the following agents: sulfamethoxazole, a chemical drug which acts by interference with para-

aminobenzoic acid utilization; tetracycline, which interferes with intracellular protein synthesis; and cephalothin and ampicillin, which are cell-wall-active drugs.

Strains of *E. coli*, each susceptible to the respective antibacterials, were exposed for 15, 30, 60, 120 and 180 minutes and 18 hours to several concentrations of each agent.

Following the 180-minute or three-hour exposures to the antibacterials at 0.1 M.I.C., 1.0 M.I.C. and 10 M.I.C., photoscans of the *E. coli* were taken. As shown above, regardless of the antibacterial agent used or its mode of action, the changes in surface morphology were remarkably similar... elongation at low drug concentrations, midcell defects at higher

# Three-Dimensional World of SEM



E. coli + cephalothin



E. coli + ampicillin

## of certain antibacterials on bacterial surface morphology

concentrations and ultimate progression to spheroplast-like forms.<sup>1</sup>

**The interpretation.** "At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."<sup>2</sup>

**It should be noted that this information represents only *in vitro* research. No clinical significance can be drawn from this study concerning the effective-**

**ness of any of the agents discussed, as it is not possible to extrapolate *in vitro* data to humans. This information is presented to demonstrate the continuing research activities in the area of antibacterials, particularly modes of action and surface morphology.**

<sup>1</sup>Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

<sup>2</sup>*Antimicrob. Agents Chemother.*, 1:164, 1972.

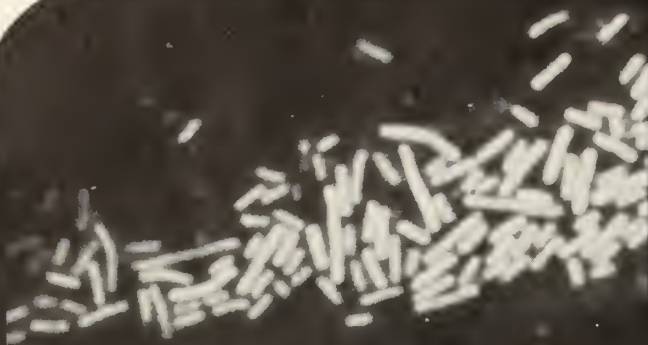
See next two pages for product information.



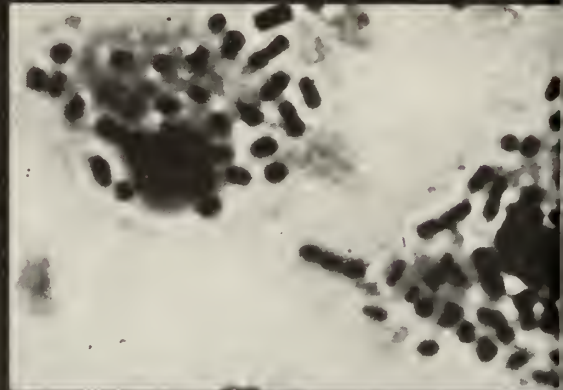
Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110



# Observations from



*E. coli*—Fluorescent stain



*Klebsiella* sp.—Stain to define capsular envelope

## ■ Effective control of primary susceptible bacterial offenders

Gantanol® (sulfamethoxazole) is effective against susceptible strains of *E. coli*, the most common cause of urinary tract infections. It is also highly effective against other susceptible gram-negative and gram-positive organisms, usually *Klebsiella-Aerobacter*, *Staph. aureus* and *Proteus mirabilis*.

## ■ Prompt antibacterial blood and urine levels—in from 2 to 3 hours

Antibacterial levels of Gantanol usually appear in blood and urine in from 2 to 3 hours after the initial 2-Gm adult dose. This rapid initiation of effective antibacterial activity enables prompt treatment of certain nonobstructed urinary tract infections and may also help avert possible sequelae.

## ■ Around-the-clock coverage for 14 days

Mounting evidence in current medical literature suggests a minimum of 14 days' continuous therapy for certain urinary tract infections.\* Following the initial 2-Gm adult dosage of Gantanol each 1-Gm dose provides up to 12 hours of antibacterial activity during the treatment period. When urinary tract infection is more severe, *t.i.d.* (q. 8 h.) dosage schedule may be required. Both regimens provide around-the-clock therapy, important because normal urinary retention during sleep tends to favor bacterial proliferation. It is also convenient for patients not to have to take middle-of-the-night medication.

## ■ Also effective in certain nonobstructed chronic and recurrent urinary tract infection

Nonobstructed urinary tract infections, such as cystitis or pyelonephritis—chronic and/or recurrent—develop more commonly in the elderly and debilitated, and response to Gantanol is often highly satisfactory.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note:** Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

**Contraindications:** Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

**Warnings:** Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-

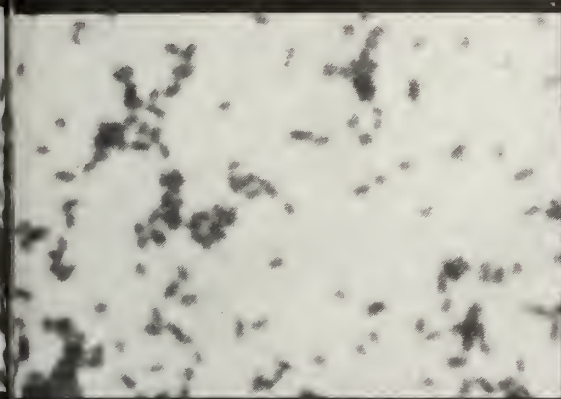
hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

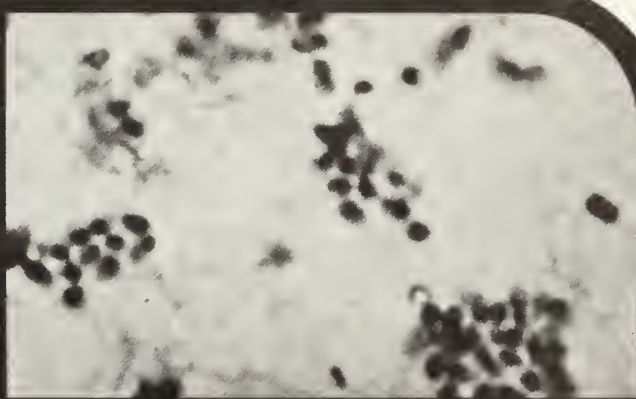
**Adverse Reactions:** Blood dyscrasias (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprolthrombinemia and methemoglobinemia).



# clinical practice



Enterobacter sp.—Gram stain showing characteristic gram-negative rod



Proteus mirabilis—Flagella stain

## ■ Your option: tablets or suspension

Gantanol Tablets or the pleasant-tasting, cherry-flavored Suspension can provide dependable antibacterial activity to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement usually may be expected to begin within 24 to 48 hours. Usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol is generally well tolerated, with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended during therapy.

Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

n nonobstructed cystitis due to susceptible organisms

# Gantanol<sup>®</sup> B.I.D.

(sulfamethoxazole)

## Basic therapy

anemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *NS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Dosage:** Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

*Usual adult dosage:* 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

*Usual child's dosage:* 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110



### MEET THE MEDICAL DIRECTOR

LeRoy E. Bates, M.D., M.P.H., became Medical Director of Blue Cross and Blue Shield of South Carolina on August 1. Prior to his return to South Carolina, and from July 1, 1969, Dr. Bates was Vice President for Medical Affairs of the Health Insurance Plan of Greater New York.

Dr. Bates has had wide experience in health affairs, and hospital administration, serving as Assistant Director of Johns Hopkins Hospital in Baltimore from 1952 to 1959. In addition, Dr. Bates has been chief executive officer of two large teaching hospitals, and served in the Public Health Service and World Health Organization.

He is a native South Carolinian and received his B.S. degree from the College of Charleston. He received his M.D. degree from the Medical College of South Carolina and served his internship at Roper Hospital in Charleston. Dr. Bates received his Master of Public Health degree from the University of California at Berkeley, and did postgraduate study at Johns Hopkins University School of Hygiene and Public Health.

Dr. Bates has published in Public Health Reports, Bulletin of the WHO, Modern Hospital, and Hospitals.

His appointments have included: President, Northern California Central Services, Inc.; Board of Directors and President, Commission for Administrative Services in Hospitals; Presidency of the Central Coast Hospital Conference; Board of Directors and Executive Committee, Hospital Council of Northern California and Chairman of its Methods Improvement Committee; and Facility Planning Committee of the Health and Hospital Planning Council of Southern New York.

Dr. Bates' professional memberships include the American Hospital Association, American Medical Association, American Public Health Association, and the Society of Medical Administrators.

# adjunctive therapy for wound debridement

## HELPS TO REMOVE:

- Necrotic Tissue  
and Associated Odor

## HELPS PREPARE WOUND FOR:

- Granulation/Healing
- Granulation/Grafting



### CLEANSE WOUND

Thoroughly cleanse and irrigate wound area with sodium chloride or water solutions. Wound **MUST** be cleansed of antiseptics or heavy-metal antibacterials.



### THOROUGHLY MOISTEN

Thoroughly moisten wound area either through tubbing, showering, or wet soaks (e.g., sodium chloride or water solutions).



### APPLY ENZYME

Apply a layer of TRAVASE Ointment. Assure intimate contact with necrotic tissue and complete wound coverage.



### APPLY MOIST DRESSING

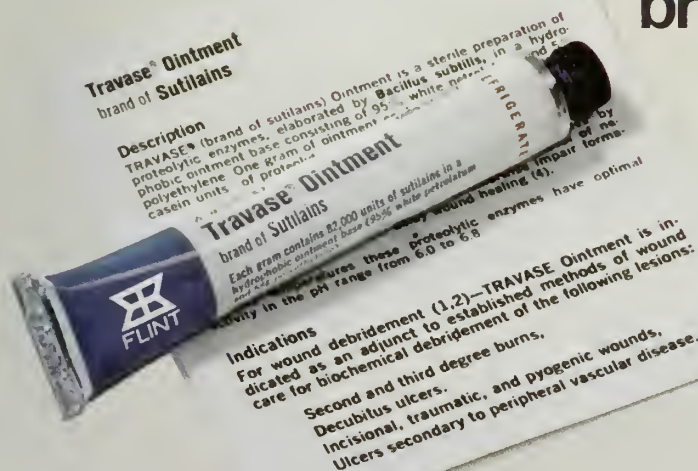
Apply loose moist dressings (most important with dry leathery eschar).



### CHANGE DRESSINGS

When changing dressing, gently wipe away the dissolved material. Repeat the procedure, including application of TRAVASE Ointment, 3 to 4 times per day for best results.

## Travase® Ointment brand of Sutilains



**FLINT LABORATORIES**  
DIVISION OF TRAVENOL LABORATORIES, INC.  
Deerfield, Illinois 60015

Please see next page for prescribing information.



# Travase Ointment brand of Sutilains

## ulcers

TERRY V. CARLE, M.D., CLINICAL INSTRUCTOR, DEPT. OF PHYS. MED. & REHAB.,  
CRAIG REHABILITATION HOSPITAL, UNIVERSITY OF COLORADO



Before treatment, necrotic matter coated the inner surfaces of this decubitus ulcer.



After nine days of TRAVASE therapy, debridement is nearly complete and granulation evident.

## burns

DALE B. DUBIN, M.D., DIPLOMATE,  
AMERICAN BOARD OF PLASTIC SURGERY, TAMPA, FLORIDA



Before treatment . . .



48 hours following treatment with TRAVASE Ointment on right hand; left hand is control.

## Travase<sup>®</sup> Ointment

(brand of Sutilains)

**Indications:** For wound debridement, TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:

- Second and third degree burns,
- Decubitus ulcers,
- Incisional, traumatic, and pyogenic wounds,
- Ulcers secondary to peripheral vascular disease.

**Contraindications:** Application of TRAVASE Ointment is contraindicated in the following conditions:

- Wounds communicating with major body cavities,
- Wounds containing exposed major nerves or nervous tissue,
- Fungating neoplastic ulcers,
- Wounds in women of child-bearing potential—because of lack of laboratory evidence of effects of TRAVASE upon the developing fetus.

**Warning:** Do not permit TRAVASE Ointment to come into contact with the eyes. If contact is made, immediately rinse with copious amounts of water, preferably sterile.

**Precautions:** A moist environment is essential to optimal activity of the enzyme. Enzyme activity may also be impaired by certain agents (see package insert). Although there have been no reports of systemic allergic reaction in humans, studies have shown that there may be an antibody response in humans to absorbed enzyme material.

**Adverse Reactions:** Consist of mild, transient pain, paresthesias, bleeding and transient dermatitis. Pain usually can be controlled by administration of mild analgesics. Side effects severe enough to warrant discontinuation of therapy occasionally have occurred.

If bleeding or dermatitis occurs as a result of the application of TRAVASE Ointment, therapy should be discontinued. No systemic toxicity has been observed as a result of the topical application of TRAVASE Ointment.

**DOSAGE AND ADMINISTRATION: STRICT ADHERENCE TO THE FOLLOWING IS REQUIRED FOR EFFECTIVE RESULTS OF TREATMENT:**

1. Thoroughly cleanse and irrigate wound area with sodium chloride or water solutions. Wound **MUST** be cleansed of antiseptics or heavy-metal antibacterials which may denature enzyme or alter substrate characteristics (e.g., hexachlorophene, silver nitrate, benzalkonium chloride, nitrofurazone, etc.).
2. Thoroughly moisten wound area either through tubbing, showering, or wet soaks (e.g. sodium chloride or water solutions).
3. Apply TRAVASE Ointment in a thin layer assuring intimate contact with necrotic tissue and complete wound coverage extending  $\frac{1}{4}$  to  $\frac{1}{2}$  inch beyond the area to be debrided.
4. Apply loose wet dressings.
5. Repeat entire procedure 3 to 4 times per day for best results.



**FLINT LABORATORIES**  
DIVISION OF TRAVENOL LABORATORIES, INC.  
Deerfield, Illinois 60015



# walking

**widened Man's  
hunting range but  
increased blood  
pressure in  
hemorrhoidal  
veins**

#### Precaution

Prolonged or excessive use of Anusol-HC might produce systemic corticosteroid effects.

Symptomatic relief should not delay definitive diagnosis or treatment.

#### Dosage and Administration

Anusol-HC: One suppository in the morning and one at bedtime for 3 to 6 days or until the inflammation subsides.

Regular Anusol: one suppository in the morning, one at bedtime, and one immediately following each evacuation.

## to help ease acute symptoms of **Anusol-HC**<sup>®</sup>

**Hemorrhoidal Suppositories with Hydrocortisone Acetate. On your Rx only!**  
Each suppository contains hydrocortisone acetate 10 mg; bismuth subgallate 2.25%; bismuth resorcin compound 1.75%; benzyl benzoate 1.2%; Peruvian balsam 1.8%; zinc oxide 11.0%; and boric acid 5.0%; plus the following inactive ingredients: bismuth subiodide, calcium phosphate, and coloring in a bland hydrogenated vegetable oil base containing cocoa butter.

## for long-term patient comfort **Anusol**<sup>®</sup>

**Suppositories and Ointment** Each suppository or gram of ointment contains the active ingredients of an Anusol-HC suppository minus the hydrocortisone.

**Warner/Chilcote**



Division,  
Warner Lambert Company  
Morris Plains, New Jersey  
07950

ANGP-35



**Because you  
practice  
medicine in the  
Palmetto State...**



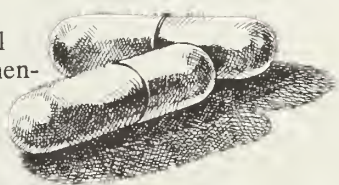


**You carry one of the heaviest patient loads in the country. Since this may include a number of patients with gastritis and duodenitis... you should know more about Librax®**

### **Helps reduce anxiety-related G.I. symptoms**

A patient may blame his attacks of gastritis or duodenitis on "something he ate" but contributing factors may be his job, marital problems, financial worries or some other unmentioned source of stress and excessive anxiety that exacerbated the condition.

Whether it is "something he ate" or "something eating him," adjunctive Librax can help. Librax offers both the antianxiety action of Librium® (chlordiazepoxide HCl), that can help relieve excessive anxiety, and the dependable anticholinergic action of Quarzan® (clidinium Br), that can help reduce gastrointestinal hypermotility and hypersecretion.



### **Patient-oriented dosage — up to 8 capsules daily in divided doses**

For optimal response, dosage can be adjusted to suit patient needs—1 or 2 capsules, 3 or 4 times a day.

**To help relieve anxiety-linked symptoms in gastritis and duodenitis**

**adjunctive Librax®**



Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.

**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

**ROCHE**

Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, New Jersey 07110



# Loridine<sup>®</sup> I.M. cephaloridine

500-mg. and  
1-Gm. ampoules

*Additional information available  
to the profession on request.*

Eli Lilly and Company • Indianapolis, Indiana 46206

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*Lilly*

# The Journal

of the

## South Carolina Medical Association

VOLUME 69

NOVEMBER, 1973

NUMBER 11

### RECENT ADVANCES IN PEDIATRIC RESPIRATORY DISEASE

CHARLES T. WALLACE, M.D.\*

Croup is an inflammation of the upper respiratory tract which occurs most commonly in children less than three-five years of age.<sup>1</sup> It is manifested by signs and symptoms of laryngeal and sublaryngeal edema with concomitant accumulation of thick secretions in the lower trachea and subglottic area.<sup>2</sup> (Figure 1.) Croup can be due to either infection or trauma.

#### FIGURE 1<sup>1,5</sup>

##### *Diagnostic Criteria For Croup*

1. History of preceding upper respiratory infection or instrumentation of the airway.
2. Sudden onset of hoarseness with bark-like cough.
3. Stridorous, noisy, labored respiration.
4. Lack of evidence of epiglottitis or lower airway disease.

Infectious croup, better described as laryngotracheobronchitis, is usually of viral origin. Parainfluenza 1, 2, and 3 have been the most commonly identified pathogens.<sup>3</sup> There are seasonal increases from mid-September to the end of November and from mid-February to mid-May. An

upper respiratory infection commonly precedes the onset of symptoms by 24-72 hours.

Traumatic croup may follow instrumentation of the upper airway and most often occurs as a complication of endotracheal intubation. It is seen within two-three hours of extubation with a peak in severity at eight hours. While its etiology is generally attributed to trauma, unsuspected pre-existing infection may play a major role.<sup>4</sup> For this reason an upper respiratory infection is generally accepted as a contraindication to general anesthesia.

The natural course of croup is often unpredictable. Most patients have a benign course, but in some there can be a rapid progression to airway obstruction and respiratory failure.<sup>5</sup> Hypoxemia tends to occur early in airway obstruction, while hypercapnea is a late development and is usually associated with nearly total airway obstruction. Arterial blood gas analysis may not be very helpful initially because a child can compensate until it begins to tire.<sup>6</sup> Because of this, many feel a clinical assessment of severity may be helpful in recognizing impending respiratory failure

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FIGURE II'

*Clinical Croup Score*

	0	1	2
<i>INSPIRATORY BREATH SOUNDS</i>	Normal	Harsh with rhonchi	Delayed
<i>STRIDOR</i>	None	Inspiratory	Inspiratory and expiratory
<i>COUGH</i>	None	Hoarse cry	Bark
<i>RETRACTIONS AND FLARING</i>	None	Flaring and super- sternal retractions	As under 1 plus sub- costal, intercostal retractions
<i>CYANOSIS</i>	None	In air	In 40% O <sub>2</sub>

A score of 5 - 6 represents impending  
respiratory failure.

and the need for tracheostomy<sup>2</sup> (Figure 2.), while others feel that a subjective analysis does not correlate as well as respiratory and heart rates.<sup>5</sup>

Croup must be differentiated from other causes of airway obstruction.<sup>2</sup> (Figure 3.) A good history and physical exam, lateral neck and chest x-ray films, and direct visualization of the pharynx with a tongue blade may be extremely helpful in making the diagnosis.

Prior to the recent use of nebulized racemic epinephrine by Jordan, therapy had consisted of cool humidified oxygen, systemic hydration, steroids, and antibiotics.<sup>1</sup> Humidity, oxygen, and parenteral hydration are the proven cornerstones of therapy. Steroids, and antibiotics have been, and still are, of dubious value. When this therapy failed, intubation and/or tracheostomy was usually necessary. Unfortunately, there is a high incidence of subglottic stenosis, granulomas of the trachea, plugging of endotracheal tubes, and accidental extubation.<sup>6</sup>

Jordan and his co-workers have used racemic epinephrine\* with IPPB for the

past ten years and published a review after the literature began to reveal sequela from intubation and the failure of steroids to provide relief. During the period from 1961 to 1970, 212 treatments were administered without sequela. No intubations or tracheostomies were needed. The treatment became so respected that they began using it in the emergency room, where 1/3 of the children were able to be sent home without admission to the hospital.<sup>1</sup>

As a result of the success in treatment of infectious croup, they then evaluated it in the treatment of post-intubation croup. One hundred and ten children were

FIGURE III'

*Differential Diagnosis*

1. Allergy or aspiration of foreign body.
2. Acute epiglottitis or retropharyngeal abscess (Ludwig's Angina).
3. Quinsy or inflammation of tonsils, adenoids, or uvula.
4. Anatomic deformity (Pierre-Robin or vascular ring).
5. Pneumothorax or pneumomediastinum.
6. Bronchiolitis or diphtheria.

\*Micronephrine

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treated with conventional therapy. Of this number, 43 deteriorated to the verge of respiratory failure and were treated with racemic epinephrine. All except four improved dramatically after the first treatment. These four required a second treatment. No patients required further treatments. Again, as in the previous study with infectious croup, no intubations or tracheostomies were necessary.<sup>4</sup>

Their treatment was as follows: (1) 0.5 cc of 2 per cent racemic epinephrine\* and and 3 cc of sterile water are placed in the main stream nebulizer of the BIRD Mark 7 Respirator, (2) While talking calmly to the child, a close-fitting mask is applied with FiO<sub>2</sub> 0.4, rapid flow rate and a pressure of 15-20 cm H<sub>2</sub>O, (3) As the child becomes accustomed to the machine, the flow rate is gradually decreased to provide longer and deeper tidal volumes, (4) The total treatment is given for 15 minutes, (5) Treatment was repeated in four hours if necessary.<sup>4</sup>

If therapy proves ineffective, the following should be considered: (1) Malfunctioning nebulizer or respirator, (2) Improperly administered IPPB, (3) Incorrect diagnosis.

In contrast to the findings of Jordan and his group, Gardner and associates in a complex study were unable to substantiate effectiveness of racemic epinephrine. The validity of their study is questionable.<sup>8</sup>

### SUMMARY

While infectious and post-intubation croup respond to cool mist and conventional therapy in most instances, a small number of children exhibit progressive airway obstruction requiring more active therapy. The use of nebulized racemic epinephrine with IPPB has relieved the obstruction in all cases without the necessity for intubation or tracheostomy and their associated complications. The importance of this can be appreciated when one realizes that only in this past year 10 of 25 infants hospitalized with croup secondary to influenza required tracheostomy.<sup>3</sup> Valuable aids in following the progression of the disease and the efficacy of therapy are the clinical croup score, respiratory and heart rates, and arterial blood gas analysis (only late in the course). This new mode of therapy is recommended as an advance in the treatment of croup.

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# THE ETIOLOGY OF COLONIC CANCER

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Colonic cancer is the second most common cause of cancer deaths (after lung cancer) and the most common cancer in the United States today. In the United States alone, over 75,000 new cases of carcinoma of the colon and rectum are diagnosed each year.<sup>1</sup> Three-fourths of cancers in the large intestine occur in the rectum and sigmoid with the remainder in the cecum, ascending, descending, and transverse colons, in that order. As preventative control methods for carcinoma of the lung become effective, colorectal cancer may become number one in incidence. There is no global difference in prevalence related to socioeconomic classification, but geographically, bowel cancer is ten times more frequent in Western countries than in African countries. The male to female ratio is close to one in high risk populations.<sup>2</sup> Some reports note a greater prevalence of colon cancer in females and rectal cancer in males in the United States,<sup>1</sup> but different populations report different figures.

Similar geographic distributions and incidences exist between carcinomas of the colon, familial polyposis, ulcerative colitis, hemorrhoids, diverticulosis and possibly appendicitis. The purpose of this paper is to examine the factors that possibly control and interrelate these entities.

The geographical variations in the incidence of carcinomas of the colon seem

to be correlated with the fat content of diet. There has been a rise in incidence in Negroes following adoption of White food habits. Negro slaves had as little cancer as Africans today.<sup>2</sup> Thirty years ago, when more maize was eaten by American Southern Negroes, there was only half the incidence of cancer; this difference today has vanished. In addition, Japanese emigrants to Hawaii and California catch up with their white compatriots within a generation, and a rising incidence in Puerto Rico over the past ten years has been reported.<sup>2</sup>

Since unabsorbable fibre is the fraction of food that reaches the colon with least change, it is more likely to affect that part of the intestine than digestible components of food, little of which reach the large bowel. A close relationship between unabsorbable cellulose content of the diet and bowel behavior exists because a diet rich in unabsorbable roughage (i.e., a high residue diet of grains, vegetables, nuts and fruits) passes more rapidly through the bowel and produces large soft stools with little odor. Diet affects the intestinal transit time, the bulk, the consistency and the bacterial flora of the feces. Highly processed foods with reduced fiber and bulk undergo a higher rate of bacterial decomposition.<sup>3</sup> The rarity of small bowel tumors and the almost total absence of epithelial tumors implies that carcinogenic factors are not ingested since ingested carcinogens would be expected to act on small intestine. A carcinogen dependent

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on bacterial activity would, however, be predilected to colon and rectum and would increase in intensity from proximal to distal portions, being expected to have maximum effect on the sigmoid colon and rectum.<sup>1</sup> When fecal arrest occurs from a low residue — high fat diet, carcinogens in the feces would be held in contact with sigmoid colon mucosa in concentrated form. It has been shown that the bacteria which are more numerous in the stools from areas with a high frequency of bowel cancer can degrade bile salts or steroids to substances known to be carcinogenic (e.g., deoxycholic acid). Any fecal arrest would not only provide more time for bacterial proliferation but also for their actions on bile salts. The bacterial changes may also reflect alterations in the nature of the bowel content due to the quality of diet.<sup>1</sup> Feces in the Western world had higher counts of *Bacteroides* and lower counts of *enterococci* and other aerobic bacteria than feces of the Eastern world.<sup>4</sup> Also, higher concentrations of fecal steroids, thought by some researchers to be endogenous carcinogens, were found in people with low residue diets. Bacteria can cause degradation of normal bile salts to known carcinogens, and the fact that a greater proportion of these bile salts are recovered from the feces of Africans on high residue diets than from Europeans on a more refined diet suggests that part of the bile salts of Europeans has been disposed of, possibly by bacteria. The fact that carcinogens producing intestinal tumors in rats are ineffective if the rats are kept in a sterile environment with bacteria-free feces provides other incriminating evidence. Also, carcinogens given orally to animals exert their maximum effect in the proximal bowel, whereas the maximal incidence in man is in the distal colon, the location of maximal bacterial proliferation.

One source incriminates the benzpyrene hydroxylase enzyme system in the GI mucosa as converters of the carcinogen benzpyrene to noncarcinogenic derivatives.

The lowest enzyme activity is in the distal colon and the system is diminished by a high fat diet.<sup>5</sup>

Diverticular disease is epidemiologically associated with colonic cancer because it occurs in a similar geographic distribution with maximum and minimum frequencies in the same communities.<sup>1</sup> Similarly, the maximum frequency is in the distal colon and the disease has increased enormously since World War I. (Bowel cancer emerged as a clinical entity at an unknown time.) The frequency of diverticulosis in American Negroes has increased from that of half of the White population to comparable figures over the past thirty years, paralleling that of cancer. Both diverticulosis and hemorrhoids are believed to be caused by increased intraluminal pressures resulting from the effects of a low residue, low fibre diet and resultant stasis.<sup>2</sup> Interestingly enough, most noninfective bowel diseases have their greatest incidence in the segment in which both fecal arrest and bacterial proliferation are maximal. A weak association of colonic cancer with appendicitis<sup>1</sup> has been made by the observation that appendicitis rose in frequency in the Western world shortly after the introduction of white flour, replacing unprocessed carbohydrate foods. The frequency of appendicitis always rises many years before that of bowel cancer — never the reverse. Even if both diseases were related to a common cause, this relationship would not be suspected since they affect people at different periods of life. Overconsumption of refined carbohydrates (the American way of life) results also in obesity, diabetes, dental caries, hypercholesterolemia, gallstones, and coronary artery disease, further increasing the feasibility of returning to high residue diets with whole-meal flour.

Bockus *et al.*<sup>6</sup> found that whereas polyps were found in only 12 percent of cancer-free colons in patients over 45 years old, they were found in 21 to 25 percent of colons with cancer in the same age group.

Cancer of the colon and rectum is sixteen times as common in patients with polyps than in patients without polyps.<sup>1</sup> The polyp-cancer sequence of histologic stages from clearly benign and noninvasive tumors through severe dysplasia, carcinoma-*in-situ*, and invasive carcinoma is readily seen. There is little evidence, curiously, that adenomatous polyps contribute to cancer. It is common to find benign tumors in continuity with cancer.<sup>2</sup> Benign and malignant masses occur in the same age distribution, and whenever the incidence of malignant tumors increases, benign tumors increase at a much greater rate. It could be postulated that polyps are inherited, but that the development of cancer is due to environmental factors which operate differently, thus accounting for the great variation of time it takes for malignant changes to occur (five to twenty-plus years), as well as the fact that only one or a few of the polyps become malignant.

The cancer risk in all cases of Ulcerative Colitis is eight to ten times greater than in the general population.<sup>3</sup> Ulcerative colitis is almost unknown in areas where bowel cancer is rare. Over 40 percent of patients with ulcerative colitis for more than 25 years are said to develop carcinoma of the colon,<sup>1</sup> and the cancer risk when colitis commences before age 25 is twice as great as in older groups<sup>3</sup>—thus suggesting a bimodal genetic age distribution for age at onset—18 years and 50 years. More people in the younger age group are said to develop carcinoma than in the older, but analyzable results so far are not conclusive. Precancerous phases of epithelial dysplasia in focal or patchy areas involving either the mucosa in part or the entire bowel can be watched by regular six-month biopsies in patients with the disease. There is no evidence of malignancy with Crohn's Disease, Schistosomiasis, or amoebiasis.<sup>2</sup>

The risk of colorectal cancer is enhanced in those patients with immunodeficiencies and reduced cellular surveillance, and those who receive immunosuppressive therapy constitute a higher risk for colorectal as well as other cancers.<sup>3</sup> Without definitive evidence that ulcerative colitis is an autoimmune disease, and without controlled long-term studies of effects, toxic immunosuppressants (6-MP and azathioprine) known to increase the incidence of cancer should not be utilized as treatment for ulcerative colitis. Recovery does not decrease the incidence of malignancy development. Cross-reacting tumor antigens, at least one of which is humoral, offer a means for correlating neoplasms and immunotherapy.<sup>3</sup> Since patients with primary immunodeficiencies have 10,000 times the incidence of malignancy than the general age-matched population, incriminating evidence towards antigenic bias is ascertained.

Finally, there are 28 reports in the literature concerning patients that developed bowel tumors after uretero-sigmoidostomy anastomosis.<sup>7</sup> The tumors varied from adenomatous polyps to adenocarcinoma with some transitional cell carcinomas raising the question of just which cells actually become neoplastic. Granted, the site of the anastomosis is a high-malignancy region, but it is postulated that several factors may act to induce tumor formation, including mechanical trauma and diversion of the urine.

Carcinoma of the colon, then, is a disease that can be definitely associated with certain controlled factors such as diet and can be associated with noninfectious disease processes. A greater understanding in controlling the disease lies in curtailing incriminating factors in the environment; hopefully, this can be done by urging developing countries not to copy Western styles of living and by reducing cancer-contributing factors in the United States.

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# ACUTE SEVERE INSULIN RESISTANCE

## — A CASE REPORT —

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### INTRODUCTION

Insulin resistance is present in the patient who requires more than 200 units of insulin daily for control. The normal endogenous insulin secretion probably does not exceed 55 units per day.<sup>1</sup> Most depancreatized individuals require 30 to 60 units of insulin per day.<sup>2,3</sup> Acute insulin resistance occurs suddenly, usually requires massive doses of insulin, and is of short duration with treatment. Ketoacidosis is the most common manifestation of acute insulin resistance. We are reporting a patient who required in excess of 34,000 units of insulin in a 24 hour period — to our knowledge the third highest dose reported in the American literature.<sup>4,5</sup>

*History:* January 27, 1971 was the 3rd Charleston County Hospital admission for this 62-year-old Negro female with adult-onset diabetes. The patient had been controlled on chlorpropamide (Diabinese) 750 mg daily until two weeks prior to her admission when she was started on NPH insulin, 20 units subcutaneously daily. After receiving NPH insulin for eight days, the patient developed generalized urticaria, most prominently on the head, neck, and arms. With the onset of urticaria, the patient sought no medical attention, voluntarily discontinued the NPH insulin, and resumed her previous dose of chlorpropamide. The rash disappeared in two days, but pruritus persisted for an additional 48 hours. The patient subsequently became anorexic, took fluids

only infrequently and began vomiting on the day of admission. When seen in the Diabetes Clinic prior to admission, the urine sugar was 3 per cent, urine acetone large, and blood sugar was 464 mg/100.

Past medical history revealed the patient to have been diagnosed as having adult onset diabetes mellitus in June, 1963. Failure of adequate control on an ADA diet alone necessitated oral hypoglycemic agents. Maximum dosages of tolbutamide (Orinase), tolazamide (Tolinase), and chlorpropamide (Diabinese), each used alone and in succession, maintained control until NPH insulin was begun shortly before the present hospitalization.

During a hospitalization in 1969 for a fractured hip, the patient received a total of 20 units of regular insulin while on a sliding scale; no other previous insulin exposure had occurred. An addition hospitalization in 1970 had been for radiation of Stage I-B carcinoma of the cervix.

*Physical Examination:* The patient was well developed, obese, and mildly obtunded. Her temperature was 98° F, pulse 80/min and regular, and respiration 18/min. Her blood pressure was 140/90, and she weighed 141 lbs. Her skin turgor was poor and mucous membranes were dry. Bilateral cataracts were present. The neck was supple and the lungs were clear. The heart was not enlarged, pedal pulses were 2+ bilaterally. No abdominal organomegaly or masses were noted. Neurological examination revealed disorientation as to time and place, response to simple commands, no lateralizing signs, and physiological reflexes. There was no evidence of infection.

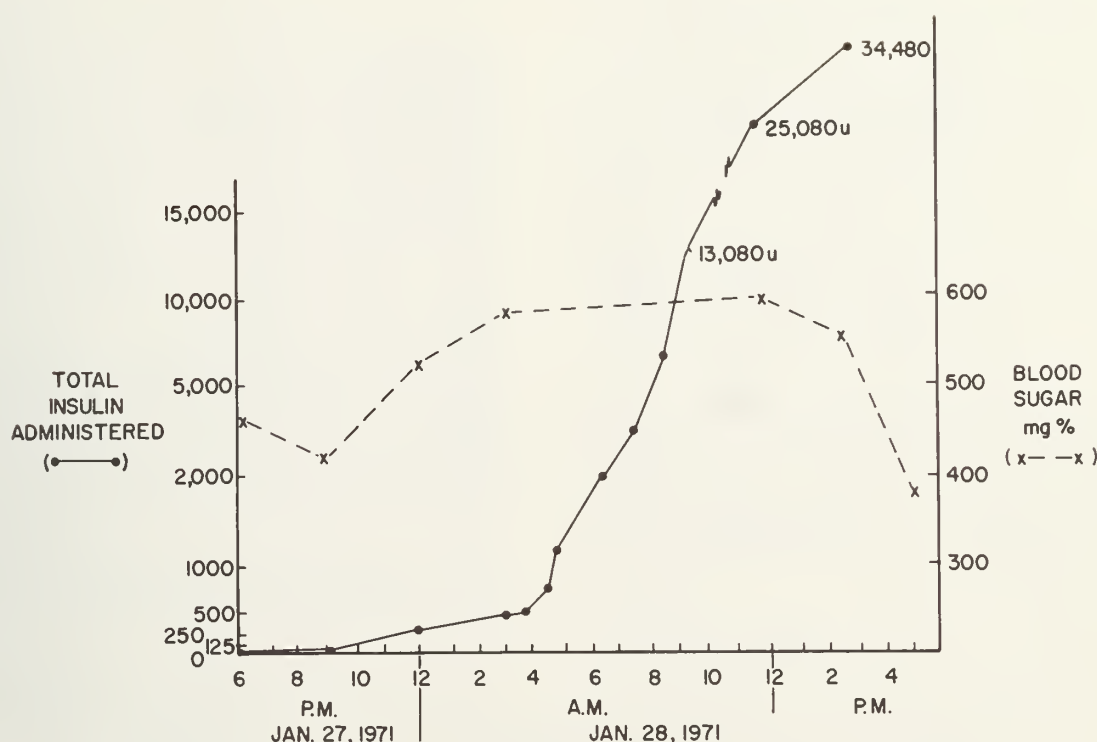
*Laboratory Data:* On admission the hematocrit was 43 per cent, hemoglobin 13.5 g 100; the white blood cell count was 10,300 with 81 per cent polys. Urinalysis showed a pH of 5.0, specific gravity 1.015, trace protein, 5 percent sugar, 2+ acetone, and 8 to 10 WBC's per hpf. The BUN was 22 mg/100, creatinine 1.4 mg/100 sodium 134 mEq, potassium 5.8 mEq, chloride 97 mEq, and CO<sub>2</sub> combining power 15 mEq per liter. Blood sugar was 464 mg/100 and serum acetone moderate. Blood gases performed six hours

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**Figure 1. Cumulative insulin dose administered and blood sugar response during first 24 hours of treatment.**

after admission revealed a pH of 7.19,  $p\text{CO}_2$  of 38 mm Hg,  $p\text{O}_2$  of 38 mm Hg,  $p\text{O}_2$  118 mm Hg,  $\text{O}_2$  saturation 97 per cent. An x-ray examination of the chest revealed only aortic arteriosclerotic changes. Routine electrocardiogram showed counter clockwise rotation with nonspecific T-wave changes. Pertinent laboratory data during treatment are shown in figures 1 & 2.

Serum insulin antibodies were measured by radioimmunoassay, using methods described by Berson and Yalow.<sup>6</sup> The total binding capacity of the serum was determined from analysis of mixtures of appropriately diluted serum and tracer insulin- $\text{I}^{125}$  with added insulin over a range of concentrations sufficient to approach saturation of the antibody. The determinations were carried out at the Medical University of South Carolina by Dr. Mario G. Buse, and by Dr. John K. Davidson, at Emory University, School of Medicine. Unfortunately, the first blood sample for insulin antibodies was obtained 16 hours after the initiation of treatment when the patient had already received 13,080 units of insulin, resulting in partial saturation of the available antibody. The high antibody titers measured by the two laboratories during the first week after the onset of therapy are in reasonable agreement and are shown in Table 1. Plasma growth hormone levels as measured by radioimmuno-

assay<sup>7</sup> (Table 1) were mildly but not significantly elevated. The patient had no stigmata of acromegaly. Serum immunodiffusion revealed a diffuse increase in IgG; IgA and IgM appeared normal. Serum protein electrophoresis was normal.

**Hospital Course:** On admission the patient received 50 units of regular pork insulin subcutaneously; this initial dose was based on dilution of plasma acetone. The intravenous route was not used because of the possibility of anaphylaxis. A blood sugar determination 3 hours later was 416 mg/100 with no change in serum acetone. During this interval, the patient became more somnolent and developed a smell of acetone on her breath with Kussmaul respirations. An additional 50 units of pork insulin was given subcutaneously with the blood sugar rising to 512 mg/100. 100 units of beef insulin was administered subcutaneously six hours after admission and was repeated at hourly intervals for 4 hours without response. At this point, 400 units of regular mixed insulin was given and repeated hourly, doubling the preceding dose each time. The largest single insulin injection was 12,000 units given subcutaneously 18 hours after admission. While administering the final dose of insulin, the urine sugar decreased from three per cent to  $\frac{1}{2}$  per cent and the subcutaneous injection was stopped with the patient receiving 9,400 units of

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the anticipated 24,000 units. At that point a total of 34,480 units of insulin had been administered. An attempt to control the acidosis was made with periodic intravenous injection of sodium bicarbonate. Intravenous dexamethasone was begun 12 hours after admission and repeated at six hour intervals.

For the next 72 hours, the patient was maintained on 10 per cent dextrose and water intravenously; repeated hypoglycemic episodes were treated with intravenous injections of 50 per cent glucose and water. Her sensorium and acid base picture improved steadily during this interval. On the fifth hospital day, a sliding scale of regular mixed insulin was begun.

During hospitalization, a silent acute inferior myocardial infarction occurred as evidenced by acute changes on a follow-up electrocardiogram; evolution occurred without complication. After tapering and discontinuing her steroids, the patient was discharged without further complications on 15 units of Lente insulin daily. On a follow-up examination three months later, the insulin antibody titers in her plasma were within the expected range for a patient who has been treated with insulin.

## DISCUSSION

This is the case of an obese maturity onset diabetic inadequately controlled on oral agents who was exposed to exogenous insulin two years prior to admission. After receiving exogenous insulin for an eight-day period two weeks prior to the present admission, the patient developed a sensitivity reaction and keto-acidosis with severe insulin resistance.

There are several factors which contribute to insulin resistance but only those pertinent to this patient will be discussed. Since about 80 per cent of adult onset diabetics are obese, the relationship between obesity and glucose intolerance has been extensively studied.<sup>8</sup> Obese patients have elevated endogenous insulin which has

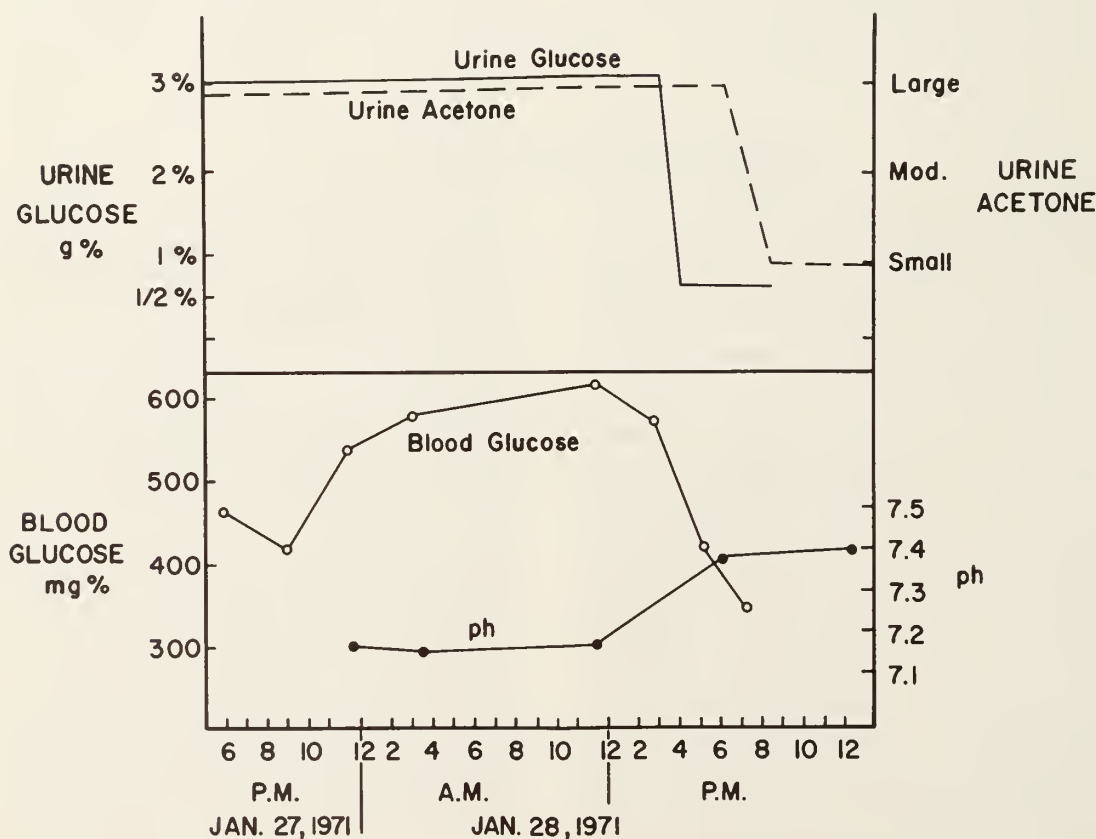


Figure 2. Changes in urine sugar and acetone; blood sugar and blood pH during the first 30 hours of treatment.



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been attributed to insulin resistance in tissues.<sup>9,10</sup>

Keto-acidosis is a second contributing factor that occurred in this patient. Acidosis and an "insulin antagonist" associated with the d-globulins in plasma have been implicated as causes of the insulin resistance observed in diabetic keto-acidosis.<sup>11</sup> In addition, insulin impaired glycolysis and resistance to insulin.<sup>13,14</sup>

Growth hormone, glucocorticoids, catecholamines, and glucagon are all contra-insulin hormones. Secretion of these hormones results in decreased glucose utilization by insulin sensitive tissues. Growth hormone levels generally are not elevated in ketosis<sup>15</sup> but cortisol levels are increased.<sup>16</sup>

The fourth and primary source of insulin resistance in the patient was the presence of insulin antibodies. Low antibody titers to insulin (10-20 units binding capacity per liter) generally appear a few months after insulin therapy is begun; this low titer is due to the low antigenicity of insulin.<sup>6,17</sup> Less than 0.1 per cent of diabetic patients treated with exogenous insulin develop resistance; age and sex do not contribute to the development of resistance.<sup>18,19</sup> Although the duration of insulin therapy is variable in those who develop resistance about 2/3 of patients with

insulin resistance are treated less than one year.<sup>17</sup> Our patient received two doses of regular insulin, ten units on each occasion, according to a sliding scale while hospitalized previously on the orthopedic service. Oakley, et al, found that 29 of 41 insulin resistant patients had a passive cutaneous anaphylactic reaction (PCA) to subcutaneous insulin and that 15 to 22 PCA positive patients had high titers of hemagglutinating antibodies.<sup>19</sup>

Immunoglobulin G is the primary immunoglobulin involved in insulin resistance, but immunoglobulin A and immunoglobulin M (hemagglutinating) have been shown to be elevated.<sup>17,20</sup> The molecular weight of the offending antibody is between 150,000-200,000.<sup>21</sup> Immunoglobulin E is responsible for the cutaneous reaction.<sup>17-20</sup>

This patient presented with acute insulin resistance associated with keto-acidosis and a history of probably allergic cutaneous reaction to NPH insulin. Initially the patient was treated with pork insulin because of its immunologic similarity to human insulin. It was recalled later, however, that pork insulin has a high incidence of cutaneous insulin allergy.<sup>22</sup> Subsequently, beef insulin was administered. It was evident that there was no immediate response or cutaneous reaction to beef or

TABLE I  
Insulin binding capacity of patient's serum during and after episode of insulin resistance

	Insulin units received last 24 hours	Blood glucose mg/100	Available serum insulin antibodies expressed as insulin binding capacity (Units of insulin/ liter serum)		Growth Hormone ng/ml
			Laboratory Buse	Davidson	
1/28/71 11:00 a.m.	13,080	592	660	486	7.0
1/28/71 6:00 p.m.	34,480	380	430	...	3.8
2/5/72	10	200	400	420	..
4/14/72	15	186	25	24	8.9

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pork insulin. The patient was then given mixed insulin, doubling the preceeding dose every hour in an attempt to paralyze the suspected immunologic response against insulin. A more vigorous approach with respect to insulin dosage was not undertaken earlier as it was not evident until four hours or so following admission that insulin resistance was present. Also, the insulin was administered subcutaneously rather than intravenously because of the increased likelihood of anaphylaxis in this patient who had previously demonstrated sensitivity to NPH insulin. It should be noted here that sulfated insulins with chemical and immunological properties different from their parent porcine or beef insulins have been used with success in the treatment of insulin resistance.<sup>23</sup> However, none was available for use in this patient.

To further decrease the immunological response, dexamethasone (Decadron) was given intravenously. Shipp, et al,<sup>18</sup> and Oakley, et al,<sup>19</sup> reported that steroids lowered the insulin requirement in insulin resistance especially in the presence of a cutaneous reaction to insulin. There is some disagreement in the literature over the use of steroids in insulin resistance, some authors showing increased insulin requirement with steroid administration.<sup>10,21</sup>

During the first 24 hours of therapy our patient received a total of 34,480 units of insulin before her urine sugar decreased. During the 72 hours after administration of this massive dose of insulin, she had repeated episodes of hypoglycemia. These

hypoglycemic episodes were probably due to the slow release of insulin resulting from the degradation of insulin-antibody complexes.<sup>9</sup> Three days after her response to the massive doses of insulin, the patient again required exogenous insulin. This represents the usual sequence of events seen in acute insulin resistance secondary to antibody formation.<sup>9</sup>

While hospitalized, the patient suffered a silent myocardial infarction, a complication that is not unusual in insulin resistant patients.<sup>18</sup> Other complications of insulin resistance have been reported, most of which are immunologically related.<sup>26</sup>

Since treatment for the initial episode, the patient has had no recurrence of insulin resistance.

The clinical course of this patient demonstrates the necessity that the physician remain alert to the possibility of insulin resistance on an immunological basis in the diabetic with mild keto-acidosis not responding to appropriate therapy. The decision to administer massive doses of insulin must be made early in the course of insulin resistance to save the patient's life.

## ACKNOWLEDGEMENT

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### Nonproprietary and Trade Names of Drugs

Chlorpropamide — Diabinese  
Tolbutamide — Orinase  
Tolozamide — Tolinase

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# INSULIN RESISTANCE

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# X-RAY FILM OF THE MONTH

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The diagnosis of transient pulmonary embolism or infarction which undergoes resolution may be difficult and easily overlooked. However, the recognition of this entity can be of great importance to the patient. As many as 47,000 annual deaths in the United States can be attributed to pulmonary embolism alone.<sup>1</sup> Of all factors associated with increased incidence of pulmonary embolism, perhaps the most important is prior history of thrombo-embolic disease. From 40 to 50 per cent of patients dying of massive pulmonary embolism have pathologic evidence in the lungs of prior embolism or infarction at autopsy.<sup>2</sup> Thus, the importance of early recognition of pulmonary infarction is evident.

The clinical diagnosis of pulmonary embolism is woefully inaccurate. The radiological findings are often either totally lacking or easily confused with other pulmonary disease processes. Electrocardiographic and blood chemistry studies are helpful, but are too often non-diagnostic.

An interesting and useful radiographic sign, the melting sign, has recently been described which may help in establishing a higher confidence level in the diagnosis of pulmonary infarcts on plain chest roentgenograms. Woesner, et al discovered that most cases of pulmonary infarction showed a characteristic pattern of

resolution when followed by periodic roentgenograms over days and weeks.<sup>3</sup> It was found that pulmonary infarcts showed resolution by a melting or shrinkage in size of the fully attained shadow while maintaining its configuration. This melting sign has proved useful in differentiating pulmonary infarcts from inflammatory and infectious infiltrates which may have a similar radiographic appearance.



Figure 1.

#### X-RAY FILM OF THE MONTH

Figure 1 shows the roentgenogram of a Roper Hospital patient with pulmonary infarction. Figure 2, taken several days later, demonstrates that the infiltrate has "melted" to a smaller size while maintaining its previous shape.

Most inflammatory and infectious infiltrates from which pulmonary infarction must be differentiated show a different pattern of resolution. These show a gradual patchy resolution of the roentgenographic density throughout the entire involved area.

When taken with clinical, laboratory and other radiographic data, the melting sign in resolving transient pulmonary infarction is a useful tool in the recognition of what is "probably the most mis-diagnosed serious disease affecting the cardiovascular system."



Figure 2.

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## THE TREATMENT OF ACUTE BRONCHIAL ASTHMA IN THE ADULT

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Since the patient with bronchial asthma may present himself to the physician in various stages of the disease, treatment would be somewhat dictated by what is occurring pathophysiologically.<sup>1</sup> Whereas one patient may be seen with mild dyspnea and auscultatory wheezing over a many week period, another patient may have only a few hours history of increasing severe respiratory distress and present as a life threatening emergency. It is a distinct feature of bronchial asthma that even the mildest bronchospastic episode can progress in a brief span of time to severe obstruction with edema, inspissated mucous etc. in the period of only a few hours. However, generally, one can divide the treatment into that for acute, moderately acute and chronic asthma.

**MODERATELY ACUTE ASTHMA:** This is the stage usually seen for the office emergency or hospital out-patient visit. The patient is grossly dyspneic with wheezing audible without the stethoscope but yet has no cyanosis. The respiratory rate is rapid and the patient is generally leaning forward in an attempt to breathe. The stages of treatment would be:

1. Adequate positioning of the patient—we attempt to get the patient on an examining table and do not give him medication while he is seated in a chair (patients will generally request that they not be put on an examining table. The patient can then be placed at any degree angle on the examining table but in this way he can be

checked for adequate airway and is in a position to have further intensive care if necessary.

2. Begin intravenous infusion with five per cent glucose and water so that there is a route for intravenous medication if and when the emergency progresses and intravenous medication is indicated and at least this avenue of therapy will be open.

3. Epinephrine is probably the most potent bronchodilator available. It has been shown that bronchial asthma is an effect of beta adrenergic blockade and epinephrine has a major portion of its action via the beta adrenergic system.<sup>2</sup> The bronchodilatory effect of epinephrine is dose related but in our experience the maximum beta adrenergic effect is reached at 0.4 to 0.5 cc of 1:1000. However, in excess of this dosage, undesirable alpha adrenergic effect such as cardiac stimulation etc. occurs. For this reason, it is desirable to give smaller dosages, 0.4 cc in the adult, frequently, i.e. every 20-30 minutes times two or three rather than a larger dosage, 0.6 to 1 cc.

We do not recommend any of the long-acting epinephrine preparations in this situation as the absorption is erratic and one has a more firm control of the situation using the aqueous forms. We feel that utilizing epinephrine in oil in such cases is similar to attempting to treat diabetic acidosis with a long acting insulin preparation.



## BRONCHIAL ASTHMA

4. Aminophylline has long been one of the important adjuncts in the treatment of asthma. This drug has been shown to potentiate beta adrenergic action by decreasing those enzyme systems (phosphodiastase) involved in depletion of the effects of the beta adrenergic system. Although aminophylline is most effectively given intravenously, it must be given exceedingly slowly to obviate the rapid pH changes involved in its sudden introduction into the blood stream. We recommend giving the adults  $7\frac{1}{2}$  grains in at least 250 ccs of five per cent glucose and water and this can be run in rapidly via the previously set up infusion. We do see on occasion the sudden shock like picture evolve if aminophylline is given undiluted intravenously even though given slowly. This type of blood pressure instability is notoriously unresponsive to conventional vasopressor therapy and may present a situation which is even more life threatening than the bronchial asthma.<sup>3</sup> Mucolysis is particularly important when mucoid plugs are potentiating the asthma. Intravenous iodide preparations in the form of sodium iodide 100 mgm. have been helpful but never are to be given if there is even the slightest question of previous iodine hypersensitivity. If the patient had not received iodides previously, and is a particularly atopic individual, it would be best to omit this phase of the acute therapy.<sup>4,5</sup>

6. Adrenocorticosteroids have been certainly life saving on many occasions and one of the greatest additions to the armamentarium of the physician in treatment of asthma. However, steroids do take an amount of hours to be effective and although given during the acute asthmatic episode, should not be expected to be effective for the first hour or longer. One hundred mgm of Hydrocortisone (Solu-Cortef) can be added to the infusion of 250 ccs five per cent glucose and water with aminophylline and this infusion can be followed with a continuous drip of 1,000 ccs five per cent glucose and water with 200 mgm of Hydrocortisone. However, the patient should also be given 20 mgs of Predni-

sone orally so that the absorption of the drug and its utilization can be expected soon after the initial emergency drugs have begun to wear off.<sup>6</sup>

7. Sedation can be given and should be given to the acute asthmatic but only after an adequate airway has been assured and there is some attempt at monitoring the respiratory rate. Sedation is given after the epinephrine, Aminophylline etc. and from the moment any type of sedative is used, the possibility of respiratory depression is continuously considered. In analyzing studies of death of bronchial asthma, the over zealous utilization of sedation was paramount in the errors of treatment cited. I recommend Librium in the form of 25-100 mgm parentally every four to six hours or if nausea is prominent, the use of Phenergan. Narcotics are to be specifically avoided and only used in rare cases where intercostal pain is the major factor (and this will occasionally occur in an acute asthmatic particularly if subcutaneous emphysema is occurring).

8. Oxygen therapy is used if the patient appears to be hypoxic and cyanotic but is used with very low liter flow such as two to four liters per minute and the patient is carefully monitored with the same precautions given for sedation. The possibility of CO<sub>2</sub> narcosis always exists when oxygen is administered to the acute asthmatic. Intermittent positive pressure breathing is helpful in many cases. The advantage of this type of delivery of air or oxygen to the patient is that it does decrease the work of breathing for the patient. It also enables a bronchodilator aerosol such as Isuprel to be delivered to the bronchi. (Suggest 1 part Isuprel 1:200 or Bronkosol one part to four parts Mucomist, Turgimist or even normal saline.) However, this therapy does increase the physiological dead space via the mask unit and this is a potential disadvantage. Accordingly, some patients may fare very badly when this device is introduced and if it is not tolerated well, should be immediately discontinued.<sup>7</sup>

It should be mentioned here that certain

specific co-existing conditions may tempt one not to employ epinephrine and steroids in the acute asthmatic. It is often a practice not to administer epinephrine to a hypertensive patient with severe asthma or one who has recently had coronary artery disease. However the severe physiological stress involved in an acute asthmatic attack causes endogenous epinephrine secretion to such extent that alpha adrenergic effect is extreme and the hypertensive has a tremendous stimulation to his blood pressure and the coronary artery disease patient has great stress to the heart. Therefore the relief afforded by epinephrine although initially producing some blood pressure and cardiac stimulation, is well worth the tem-

porary side effects. It is alleged that Bronk-ephrine (Breon Company) decreases the amount of cardiovascular stimulation but this has not been the experience of this writer. A similar situation occurs in the diabetic or peptic ulcer patients with acute bronchial asthma. One is tempted under these conditions not to utilize adrenocorticosteroids but again the stress phenomena involved here would assume that vast amounts of endogenous steroid type secretions is occurring and if one simply gives an adequate amount of steroids to help break the asthma the patient will probably have less steroid effect in the long run than were he to have prolonged uneffectively treated asthma.

## TREATMENT OF CHRONIC BRONCHIAL ASTHMA IN THE ADULT

CHARLES H. BANOVA, M. D.

Drug therapy of chronic bronchial asthma is centered around a concept of attempting to keep the bronchi in a state of continuous dilatation and thereby decrease the associated edema and mucous formation which occurs in acute bronchial obstruction. Obviously, continuous oral therapy is desired and the basis of this treatment is the ephedrine type bronchodilator. The standard dose of ephedrine in the adult is approximately 100 mgm per day in divided dosages. Many preparations are available with sedation to neutralize the stimulatory effects of the ephedrine and some have in addition the methyl xanthine derivatives plus various mucolytic agents. Such preparations as Tedral (Theophylline 130 mgm, ephedrine HCl, 20 mgm and phenobarbital 8 mgm) can be obtained without a prescription for the

asthmatic or is available with additional sedation in the form of Tedral-25, or with glyceryl guaiacolate in the form of Tedral expectorant or in the long-acting form of Tedral-SA. Other similar preparations are Bronkotabs, Ephed-Organidin, Duo-Vent. Marax has hydroxyzine as its sedative agent and this is an antihistamine so is helpful in the pure atopic type of asthmatic with associated allergic rhinitis. However, this particular preparation occasionally has the disadvantage of having the antihistamine act as a drying agent which may be contraindicated if the patient is having mucoid secretions.\*

The Methyl Xanthine derivatives are in our experience not particularly helpful when given orally in tablet form although are moderately well absorbed in an alcohol base such as elixophylline or Quibron.



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The associated nausea of these drugs often makes them undesirable in the already clinically ill asthmatic. Theophylline preparations are moderately well absorbed via of the rectal mucosa and the enema units of aminophylline have been quite helpful. Suppositories can be irritating if used too frequently but the form of Aminet (three dosage sizes available) or Aqualon Plus which has the added advantage of not having to be refrigerated is on occasion useful for the patient to have in his medicine chest for the acute "middle-of-the-night" exacerbation of asthma. We generally reserve the aminophylline type preparations for the more acute exacerbation of symptoms than on any chronic basis.

Antibiotics are given to the chronic asthmatic only when there is a superimposed acute infection or if there is an associated chronic bronchitis present. The so called "blue bloater" type of bronchitis with considerable bronchorrhea and often superimposed cor pulmonale has been shown at least in the British literature to respond well to prophylactic antibiotics for any upper respiratory infection. This is the one occasion in our practice where a patient is given Tetracycline to keep at home and told to take at the first sign of upper respiratory infection. It has been shown that the risk of the development of resistant organisms in the sputa of these patients is less than the danger of continuous chronic bronchitis with the superimposed infections present.

Aerosol Therapy in the form of hand nebulizer units has been the mainstay of the chronic asthmatic for many years. Recently, numerous studies in the literature have shown that the rebound phenomenon associated with this medication can on occasion be disastrous for the asthmatic.<sup>9</sup> The virtual addiction of bronchodilator aerosols has only recently been noted but is a distinct danger when these materials are used. The Medihaler, Bron-

kometer, Mistometer, Vaponephrine, freon charged hand nebulizers are particularly dangerous since they can be easily slipped into the patient's pocket and subconsciously over-utilized in the patient already having a compromised pulmonary reserve.

The mucolytic agents are extremely important in the chronic asthmatic. We have found that one of the most potent mucolytic agents is simply water. A well hydrated patient is very important for the treatment of bronchial asthma. We ask patients to take at least 8 full glasses of water per day. Glyceryl guaiacolate although used for many years as a mainstay mucolytic agent has recently been shown possibly to be relatively ineffective in this regard. In the absence of iodide hypersensitivity, saturated solution of potassium iodide used in the form of 15-20 drops with a glass of water 4 times a day is probably one of the best mucolytic agents. Organidin (Wampole Co.) is helpful in the iodide sensitive patient and in my experience has been practically as good an agent as the SSKI.

*Adrenocorticosteroids:* It is a rare asthmatic patient who will not respond rather dramatically to steroids. Perhaps no greater group of drugs has been overused or underused in this disease than the steroids. The great dissemination of information regarding the many side effects of steroids has possibly made the physician overcautious in its use. Certainly, the ephedrine type drugs and the mucolytic agents should be tried first and steroids reserved for those cases which do not respond. However, when one is faced with a patient who has such chronic bronchial asthma as to awaken on numerous nights with intense wheezing and to have the sleep pattern completely interfered with or when there are more than three to five acute episodes of bronchospasm throughout a given week, our experience has been to give a course of steroids and attempt to break the present cycle. We have found that we can get by with less total steroids



in this manner and possibly have less endogenous stress on the patient.<sup>10,11</sup>

It has long been our feeling and the feeling of many writers, (i.e. Hans Seyle and his famous stress phenomenon concept) that individuals with chronic disease often have sufficient stress as to have endogenous steroid secretion. The so called Curling's or stress ulcer after burns is a classical example of such a phenomenon. This author feels that if one were to have continuous bronchial obstruction that there probably would be more side effects to the body from this continuous stress than if one were to employ steroids for seven to ten days or even longer in order to break the bronchospastic episode. When one is committed to steroids, however, one should use sufficiently large dose and for a sufficient length of time in order to break the cycle. In an adult, I generally begin with 60-80 mgm of Prednisone for the 1st one to three days until the bronchospasm is broken and then rapidly reduce this over five to ten period relying then on the alternate day steroid dosage of two to four tablets every other day until there is no further dyspnea and until there is no bronchial obstruction by pulmonary function. There appears to be little advantage in the use of ACTH in this type of patient and one always risks the added danger of sensitization to the protein involved. Although we do employ ACTH on occasion in the acute asthmatic, this is not recommended for the chronic asthmatic. I am certainly unimpressed by the suggestion that intermittent use of ACTH "recharges" the adrenal gland after chronic adrenal suppression from exogenous steroid administration.<sup>12</sup>

As mentioned under the treatment for acute bronchial asthma, the occasional use of intermittent positive breathing units does decrease the work of breathing in the asthmatic and can be helpful in delivering

aerosol (I recommend, Isuprel 1:200) on occasion for the acute exacerbations during the chronic asthmatic disease process. This type of treatment must be used most cautiously as the increased dead space can often increase the dyspnea for the asthmatic and the dangers of oxygen toxicity should too great a concentration of this gas be utilized. Generally, aerosol therapy is not routinely used for the chronic asthmatic.

Much of the drug treatment in chronic bronchial asthma will depend upon the results of continuous pulmonary function follow-up and monitoring. We consider simple time vital capacity determinations on some type of recording time vital capacity apparatus to be essential. The recording unit enables one to maintain a permanent record of the total and time vital capacity and particularly the response after bronchodilator aerosols. One can generally titrate medication on the basis of such follow-up determinations and mechanics of respirations. This can be a simple office procedure device and is not limited to the hospital research laboratory by any means. These devices such as a Collins Vitalometer or McKesson Vitalor are relatively inexpensive and quite simple to use even for the untrained aide.<sup>13</sup>

The utilization of hypersensitization or injection therapy in patients with extrinsic bronchial asthma has been well demonstrated and should definitely be considered in any asthmatic with this diagnosis. Adequate allergy studies in the form of skin testing, etc. should be utilized and an appropriate hyposensitization program instituted in conjunction with chronic drug therapy.

The newest addition to the management of chronic bronchial asthma is the drug Cromolyn Sodium (Trade name—INTAL or AARANE. This drug has been used successfully for years in Europe and

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Canada but has just been released for clinical use in the United States. Since this drug interferes with the release of chemical mediators in the antigen-antibody reaction, it is used only in the chronic asthmatic to prevent bronchospasm. Cromolyn is administered by powdered aerosol form via a uniquely devised inhaler and so far very little in the way of side effects has been reported.<sup>14</sup>

*Treatment of Acute Life-threatening Asthma:* When the patient has not responded to the use of isoproterenol, Epinephrine, Aminophylline, steroids, etc., he often will progress or will have progressed into a life threatening state which will require the most aggressive of therapy.

At this point, the patient should certainly be hospitalized preferably in an intensive care unit set up. Immediate consultation with an anesthesiologist is advisable and a surgeon should be contacted regarding the possibility of tracheostomy. Arrangements with the laboratory to receive blood specimens should be made.

At this stage, one can not rely on the severity of dyspnea as a prognostic sign. Often, the patient will have been quite over sedated or have CO<sub>2</sub> narcosis and will be hypoventilating. Frequently, there will be a sudden decrease in audible wheezing simply because of decreased respiratory rate and forcefulness.

The patient should be immediately intubated with vigorous suction performed. It is absolutely essential that a completely free airway be obtained. Arrangements can now be made for tracheostomy and although desirable to have the patient taken to an operating room set-up this often had best be done in the bed on the ward. A volume respirator, i.e. (Engstrom) is the most desirable here rather than the pressure regulated respirator. Often, only a pressure regulator respira-

tor is available but often it is all that is needed after the patient has had a tracheostomy. In the event that the airway obstruction is so severe that a volume respirator cannot be effectively used and the patient cannot be adequately relaxed with heavy sedation, curare and succinylcholine can be employed but of course, this requires the continuous monitoring by an anesthesiologist. The psychological trauma of such procedures in an unsedated patient is massive so heavy sedation with such agents as parenteral librium should be given almost to the point of anesthesia.<sup>15</sup>

The blood gas determination is used to evaluate proper control of ventilation and to obviate the possibility of under ventilation or over ventilation.

It has been our experience that after the patient is removed from the respirator a tracheostomy is relatively well tolerated and will allow for adequate tracheal aspiration, culturing of organisms etc. The decrease in dead space so obtained by a tracheostomy is often most helpful in the exhausted, acutely ill asthmatic.<sup>16</sup>

Our indications for the use of tracheostomy and respirator care is generally a PCO<sub>2</sub> above 65 mm Hg or pH below 7.30. Often a rapidly changing PCO<sub>2</sub> or PO<sub>2</sub> and pH is of significance in electing to institute dramatic therapy.<sup>17</sup>

Rarely an emergency bronchoscopy is indicated to remove mucous plugs from larger bronchi which could not be evacuated by suction. However, generally, with adequate humidification and use of ultrasonic nebulizers in the respirator circuit, this is not necessary.

While the above treatment programs are being instituted, massive dosage of corticosteroids (up to 2,000 mgs of hydrocorti-

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tisone in the 1st 18-24 hrs. intravenously, epinephrine every three to four hours in the dosage of 0.3 and 0.4 ccs of 1:1,000, aminophylline at least 7½ grains every six hours intravenously) should also be given. We do not advocate the use of buffers to relieve acidosis and have found that adequate use of the respirator will obviate this necessity.

In the office management of bronchial asthma one must always be prepared for the unexpected emergency complication. This writer has always felt that every physician regardless of his type of practice or degree of auxiliary staff should be prepared for unexpected allergic emergencies. This involves self discipline and a disciplined office staff, with adequate rehearsals for the possible emergency requiring appropriate drug administrations etc. Generally, it is recommended that an emergency cart or tray should be set up in each office with appropriate ampules of epinephrine, aminophylline and probably facilities for intravenous infusions be always at hand. In the emergency situation it is very frequent not to have the correct size syringe, needle, aspirating equipment. Each physician administering any type of drug always has the danger of treating anaphylactic reactions. Bronchospasm and acute bronchial asthma will often require the same equipment

as would be needed by any physician in his office.

A laryngoscope is a must and every physician should be thoroughly familiar with its use. Most anesthesia departments will be happy to instruct physicians and advise methods of updating and training in its use. Larger anesthesia departments will have training dummies for proper teaching techniques of endotracheal intubation etc.

Auxiliary office staff should be instructed on methods of setting up aspiration units and be taught how to assist in appropriate aspiration. A simple clothing hook can be set up in an examining room and utilized in the emergency for intravenous infusion. A few bottles of 250 ccs five per cent glucose and water should be kept available on the emergency tray and a disposable infusion set up with appropriate needle sizes etc.

Each of the auxiliary personnel in the physicians office should have a specific duty in the event that an acute allergic emergency such as bronchial asthma occurs. This type of training would be important not only for the management of the asthmatic but again for any situation of acute bronchospasm presenting itself subsequent to an allergic emergency.

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# President's Pages



## The Mid-Winter Business Meeting, December 8th and 9th

At the last meeting of Council in September, the Public Relations Committee presented a program to Council which was enthusiastically accepted. One of the primary objects of the Business Meeting in December will be to discuss and implement some of the aims of this Public Relations Program.

There will be presentations from most of the major committees of the Association, all of these either directly or indirectly serve to carry out the program that I have just mentioned.

Key members of the Legislature will be asked to participate in the program. It has been suggested that they be members of a panel that will answer questions as to how we might cooperate with the Legislature in our joint effort to serve the people of South Carolina better in the medical field.

Why are we having so much to say about Public Relations? This is the reason as I see it. There is a disease prevalent in this country, the symptoms of which are the loss of Personal Freedom. It seems to be Endemic throughout the world. It's a viral disorder and when it settles on the doctors, it settles on the patients too.

There is an excess of rhetoric about the need to provide more and better health care for the poor. Not too long ago the medical profession met the problem on an individual basis with no help from government and with very little talk from social planners.

It is probably true that such a system has become outmoded by the increase in urbanization and the complexities of modern living and that we need a more orderly and comprehensive process. The real question is, who is best equipped to evolve such a process and to supervise its operation? The rather obvious answer is "Doctors," but the virus is so far advanced that people generally, and Politicians specifically, feel we are confronted with a health care crisis, which, if we don't do something soon, will become an instant disaster, requiring immediate government intervention. The public has been told so many times that there is a health care crisis, they are not disputing it any more but arguing how much or how little is needed.

I am sure that you all know of the recent poll that found a great majority of the people believe there is a health care crisis, that doctors are too few, that medical care is not easily available on short notice, and so on. But what isn't so widely told, is that on the same poll all of those who believed this said that, of course, it wasn't true of them personally. They had no complaints about their doctor, their care or his accessibility.

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# The irritations of man's day are often reflected in his gut.

The causes of irritable colon and the diarrheal symptoms that often accompany it can be as diverse as the systemic and emotional irritations man is faced with daily.

Although the mucoid nature of stools and the occurrence of diarrheal episodes coincident with times of emotional stress may be valuable clues to the functional nature of the disorder, irritable colon must often be diagnosed by exclusion. Such diagnostic exploration takes time. Discovery of the nature of any emotional problems may take more. During that time, Lomotil® is an ideal agent for controlling diarrheal symptoms.

Lomotil tablets are small, easy to carry and easy to take. They act promptly and effectively. Secondary effects are relatively infrequent and, once the first force of the diarrhea is controlled, maintenance is frequently effective on as little as one fourth of the initial dosage.

These same characteristics make Lomotil useful in controlling the diarrhea associated with gastroenteritis, antibiotic therapy and acute infections.



**IMPORTANT INFORMATION:** This is a Schedule V substance by Federal law; diphenoxylate HCl is chemically related to meperidine. In case of overdosage or individual hypersensitivity, reactions similar to those after meperidine or morphine overdosage may occur; treatment is similar to that for meperidine or morphine intoxication (prolonged and careful monitoring). Respiratory depression may recur in spite of an initial response to Nalline® (nalorphine HCl) or may be evidenced as late as 30 hours after ingestion. LOMOTIL IS NOT AN INNOCUOUS DRUG AND DOSAGE RECOMMENDATIONS SHOULD BE STRICTLY ADHERED TO, ESPECIALLY IN CHILDREN. THIS MEDICATION SHOULD BE KEPT OUT OF REACH OF CHILDREN.

**Indications:** Lomotil is effective as adjunctive therapy in the management of diarrhea.

**Contraindications:** In children less than 2 years, due to the decreased safety margin in younger age groups, and in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine.

**Warnings:** Use with caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis.

**Usage in pregnancy:** Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

**Precautions:** Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage.

**Adverse reactions:** Atropine effects include dryness of skin and mucous membranes, flushing and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria and paralytic ileus.

**Dosage and administration:** Lomotil is contraindicated in children less than 2 years old. Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

**Overdosage:** Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils, tachycardia and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. Use a narcotic antagonist in severe respiratory depression. Observation should extend over at least 48 hours.

**Dosage forms:** Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. Liquid, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

# Lomotil®

## TABLETS/LIQUID

Each tablet and each 5 ml. of liquid contain:  
diphenoxylate hydrochloride . . . 2.5 mg.  
(Warning: May be habit forming)  
atropine sulfate . . . . . 0.025 mg.

takes care of the gut issue  
in irritable colon

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# Integument!

Our skin—the human integument—covers us, defines us, protects us. But skin is subject to cuts, burns, abrasions. And infections. Neosporin Ointment fights infection by providing broad antibacterial action against susceptible skin invaders. It contains antibiotics that are rarely used systemically, reducing the risk of sensitization.



**INDICATIONS:** *Therapeutically*, used as an adjunct to appropriate systemic therapy for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa • primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection.

*Prophylactically*, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

**CONTRAINDICATIONS:** Not for use in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components.

**PRECAUTION:** As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Complete literature available on request from Professional Services Dept. PML.

## NEOSPORIN<sup>®</sup> Ointment

(POLYMYXIN B-BACITRACIN-NEOMYCIN)

Each gram contains: Aerosporin<sup>®</sup> brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q.s. In tubes of 1 oz. and ½ oz. and ⅓ oz. (approx.) foil packets.



Wellcome

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Part of the crisis, we are told has to do with the cost of medical care. Physicians' fees have increased but only parallel to, and even somewhat behind, the increase in all other types of income. Much of the increased cost of medicine is in reality caused by the increased cost of hospitalization.

Those who claim to have the answer—and that it must be Government Run Medicine—must subscribe to the theory that only those who created the mess in the first place are qualified to clean it up.

Does anyone suggest that government's record in its forays into farming, housing and the solution to the poverty program recommend government as a successor to the family doctor?

As Governor Ronald Reagan of California stated, "You can't socialize the doctors without eventually socializing the patient." We should not subscribe to the theory of inevitability. It has been suggested that the medical profession base their defense on a question that would be easy for every working man and woman to understand. That question is by what right in this country can the government tell the men and women of any profession that in order to practice their art, they have to become government employees?

We must seek the help of the people of our state in resisting all encroachment on our profession. This will be easier for us to do if we will carry out our program of Public Relations and show the people the righteousness of our cause.

Harold P. Hope, M. D.  
President

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## 50 YEARS AGO

November, 1923

Heavy attendance from South Carolina was reported at the meeting of the Southern Medical Association in Washington.

# Editorials

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## A Silver Anniversary Generally Uncelebrated

In the British elections of 1945 the Socialist party ousted the Tories. Over the next two years, a socialistic form of delivering medical services was devised and implemented. The National Health Service began operations twenty-five years ago this year. We do not hear much rejoicing from here. We can get some idea of what N.H.S. has done to British Medicine from Grady Hendrix' recent article in the *Journal* about his observations while on a year's study at Guy's Hospital, London. I am surprised that his report did not elicit more comment from our strong advocates of private control of medicine. It certainly seemed to support them to some extent.

*Costs*—The cost of hospitalization and physicians' services sound about the same in London and Charleston, S. C. Because the average daily wage, the per capita gross national product, and other measures of personal wealth are higher here than in England, it would suggest that costs are perhaps relatively higher, certainly no less in the N.H.S. But these costs are borne indirectly by the taxpayer, not by the user, so the English do not feel the expense though they are surely paying it.

*Delays*—Though emergency problems are handled expeditiously as they are in the United States, Dr. Hendrix knew personally of patients still waiting after three years for a hysterectomy and two years for a herniorrhaphy.

*Duration of Hospital Stay*—Dr. Hendrix had the impression that the stay in the hospital was a bit longer in England. Perhaps we could export to them a few of our Utilization Review Committees.

*Public Relations*—Here is where American medicine suffered miserably by comparison. According to Dr. Hendrix, "The Briton . . . feels he has the best system in the world and that it is better than our system." Apparently, an excellent job of selling the N.H.S. has been done. This is where we need more effort and expertise in American medicine.

E.E.K.

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## Some Thoughts Along the Highways of Life

Recently, to deliver my daughter to her first year at one of the "Seven Sisters" colleges, I drove deep into the Northeast, and back to South Carolina. Some serious and not so serious thoughts during those many monotonous hours of driving, I would like to communicate to you.

North of Boston and south of Richmond, the living seems good—the air is fresh, the people are solid, friendly, and self-reliant, and there is a little space to call your own. But, between these cities, the air was smogged, the people were desperate, with little time or space to consider their fellow man.

Once, deep in thought, my car gradually slowed to the speed limit—65 mph. As I returned to alertness, I became aware of the aggravation I was causing the other motorists by traveling just at the speed limit. As they whizzed by me (one state trooper passed), I could see how angered most drivers were by a car impeding traffic by going only at the posted speed limit. Thus, I began to wonder for what the speed limit is posted there if nobody pays any attention. We have learned to disregard these laws with impunity. Almost all drivers drive faster than the

speed limit now. This kind of thinking—laws are there but, if they are inconvenient, break them—is perhaps not too serious if it only means going five or ten, or even fifteen, miles per hour over the limit on a super highway. But how many steps from this kind of thinking is Watergate? And how many more steps is anarchy? If laws are there, they should be obeyed. If laws are not reasonable, our legislatures should change them. They are to blame for this type of thinking when they allow unreasonable laws that most people ignore to stand.

Stopping for gasoline, we bought soft drinks at twenty cents a bottle. Not so many years ago, surely not over ten, these same drinks were five cents. Thus, the price has *quadrupled* while the quality of the product is *exactly the same*. In this same span of time, medical and hospital costs have increased, but not quadrupled. And the quality is so very much better that there is no comparison. Yet we get so much criticism for increased medical costs. It just ain't fair!

Zooming along the super highways, we noticed state erected signs announcing the availability of the four essentials of life to the motorist. "Gasoline," "Food," "Shelter," "Hospital." Yes, no matter the circumstances, hospitals are essential to people. We must be ever mindful of our responsibility to ensure that good hospitals are available to people.

Having often read of the basic blue workers' clothing in Red China and how much alike everyone looks there, we were impressed as we visited several campuses up and down the entire east coast at how much alike our young people look and dress. Same long straight hair on the girls, same faded blue jeans, same posture, same way of expressing themselves. This was true in all kinds of institutions—girls' schools, and coed schools, farming schools and rich kids' schools, Northern schools and Southern schools. Standing on campus and watching the students pass by, you couldn't tell one school from another. Is this good or bad?

E.E.K.



**S. C. M. A.**  
**REPORT OF THE COMMITTEE ON MENTAL HEALTH**  
**OF S. C. MEDICAL ASSOCIATION 1972-73**

- (1) The committee on Mental Health met in the pilot cottage of the proposed village system of the State Department of Mental Health, and was apprised of the treatment program and plans concerning this village system. The committee was impressed with the active and direct treatment program, and the increased efforts to re-establish patients in the community after discharge. It was the committee's understanding that the first village will be located near the Crafts Farrow State Hospital and that funding was approved for another village in the lower part of the State. Possibly another village will be built in the upper part of the State. The working plan attempted to channel all referrals through the local Mental Health Center for screening.

The committee would emphasize that most people with mental and emotional problems are currently treated by private practitioners, especially family physicians, internists, pediatricians, and psychiatrists. General Hospitals throughout the State, both in and out of their psychiatric units, care for many patients with mental and emotional disorders. A workable relationship that recognizes, accepts and does not exclude the private sector of medicine must be found. A monolithic system for delivery of mental health services must be avoided.

- (2) The committee discussed the law passed in 1971 called the "Certificate of Need" or "Hospital Franchising

Act," which specifically discriminates against psychiatry and obstetrics. This law requires a "Certificate of Need" before any hospital beds can be constructed in the state of South Carolina. This "Certificate of Need" must be obtained by going through the local, regional, and state health planning commissions with the State Board of Health having the final authority to pass on the "Certificate of Need." The committee objected to that portion of the law which applies to health facilities constructed with private financing without governmental aid. In effect, the law prohibits an individual with his own monies from constructing and operating even a small in-patient clinic without going through a long drawn out procedure of getting approval of "Planning Agencies" at three different levels. It specifically discriminates against psychiatry and obstetrics in that the same procedure must be carried out before any beds can be changed to or from psychiatric or obstetrical usage. The committee would urge the S. C. Medical Association to actively work for the repeal of that section of law which applies to private medical facilities. The State should have a right to set reasonable minimal standards for construction and operation. The committee felt, as a supreme court of the state of North Carolina held, that such a law was unconstitutional, discriminatory, and interfered with the basic rights of a person to construct and hold prop-

Maybe the patient's self-diagnosis is right. He could have hay fever. But that bright red nasal mucosa, along with the thick discharge and excoriation around the nares, strongly suggests that the main problem is a cold. Hay fever or another form of allergic rhinitis may or may not be an underlying factor.

If a complete history and examination rule out allergic rhinitis, the long-term outlook will be a lot more favorable than his own "diagnosis" would have indicated.

But right now, whether he's got allergic rhinitis or a cold, he's suffering from the same irritat-

ing symptoms of drip, congestion and stuffiness. Try DIMETAPP EXTENTABS®. They're formulated to relieve these symptoms without much chance of causing drowsiness or overstimulation. Your patients will appreciate the 24-hour relief they can get from just one tablet every 12 hours.

# Cold or



# Allergy?

**Whether it's a cold or an allergy, Dimetapp Extentabs® effectively relieve stuffiness, drip and congestion.**

**INDICATIONS:** Dimetapp Extentabs® is indicated for relief of the following conditions: stuffiness, drip, congestion, rhinitis, hay fever, sinusitis, and allergic rhinitis. Dimetapp Extentabs® quickly relieves inflammation of the nasal congestion and excessive postnasal drip, relieving the accompanying respiratory distress and the irritating reflex tearing that results from nasal drip.

**CONTRAINDICATIONS:** Hypertension may be an indication of an underlying disease. Dimetapp Extentabs® contains a centrally-acting sympathomimetic amine, which may increase blood pressure under 2 hours after administration of dry and inadequately treated hypertension. Dimetapp Extentabs® should not be used in patients with known or suspected glaucoma. Avoid Dimetapp Extentabs® in patients with known or suspected MAO inhibitor therapy.

**WARNINGS:** Use with caution in infants

and children with fever, acute infection, or feverishness. Use with caution in patients with known or suspected cardiovascular disease or hypertension. Until the patient's response has been determined, he should avoid driving a car or operating machinery, etc., while receiving Dimetapp Extentabs® for over a 12-hour period.

**PRECAUTIONS:** Advise patients with conditions such as hypertension, cardiovascular disease, or hypertension. Until the patient's response has been determined, he should avoid driving a car or operating machinery, etc., while receiving Dimetapp Extentabs® for over a 12-hour period.

## Dimetapp Extentabs®

Dimetane® (brompheniramine maleate), 12 mg.; phenylephrine HCl, 15 mg.; phenylpropanolamine HCl, 15 mg.

and children with fever, acute infection, or feverishness. Use with caution in patients with known or suspected cardiovascular disease or hypertension.

**ADVERSE REACTIONS:** Adverse reactions to Dimetapp Extentabs® may include: hypotension, dry mouth, drowsiness, tachycardia, palpitations, granular nose, and minor headache. A dry, itchy nose, itchy throat, dryness of the mucous membranes, thinness of tears, quickening of bronchial secretions, urinary frequency, and dysuria, palpitation, hypertension, hyperreflexia, headache, faintness, dizziness, tremors, flushing, dilation of vascular instances, mydriasis, CNS-depression, and less often, stimulant effect, anxiety, nausea, vomiting, diarrhea, constipation, and epigastric distress.

**HOW SUPPLIED:** Dimetapp Extentabs® in bottles of 100 and 500.

**A-H-ROBINS**

A. H. Robins Company, Philadelphia, Pa. 19101



# When pain goes on... and on... and on—



For the patient with a terminal illness, PAIN past, present, and future can dominate his thoughts until it becomes almost an obsession. The more he is aware of the pain he is now experiencing, the more difficult it is to erase his memory of yesterday's pain, and to allay his fearful anticipation of tomorrow's pain.

Surely the last thing this patient needs is an analgesic containing caffeine to stimulate the senses and heighten pain awareness. A far more logical choice is Phenaphen with Codeine. The sensible formula provides  $\frac{1}{4}$  grain of phenobarbital to take the nervous "edge" off, so the rest of the formula can help control the pain more effectively. Don't you agree, Doctor, that psychic distress is an important factor in most of your terminal and long-term convalescent patients?

the analgesic formula that calms instead of caffeinates

## Phenaphen<sup>®</sup> with Codeine

Phenaphen with Codeine No. 2, 3, or 4 contains: Phenobarbital ( $\frac{1}{4}$  gr.), 16.2 mg (warning may be habit forming); Aspirin ( $2\frac{1}{2}$  gr.), 162.0 mg; Phenacetin (3 gr.), 194.0 mg; Codeine phosphate,  $\frac{1}{4}$  gr (No. 2),  $\frac{1}{2}$  gr. (No. 3) or 1 gr. (No. 4) (warning may be habit forming)

**Indications:** Provides relief in severer grades of pain, on low codeine dosage, with minimal possibility of side effects. Its use frequently makes unnecessary the use of addicting narcotics. **Contraindications:** Hypersensitivity to any of the components. **Precautions:** As with all phenacetin-containing products, excessive or prolonged use should be avoided. **Side effects:** Side effects are uncommon, although nausea, constipation and drowsiness may occur. **Dosage:** Phenaphen No. 2 and No. 3—1 or 2 capsules every 3 to 4 hours as needed; Phenaphen No. 4—1 capsule every 3 to 4 hours as needed. For further details see product literature.

Ⓒ Phenaphen with Codeine is now classified in Schedule III, Controlled Substances Act of 1970. Available on written or oral prescription and may be refilled 5 times within 6 months, unless restricted by state law.

A. H. Robins Company, Richmond, Va. **A-H-ROBINS**



erty, work, and earn a livelihood.

- (3) In its November meeting the committee noted the problem which arose in the placement after hospitalization of foster children who had emotional problems. There is difficulty in placing these children because most of the children's homes are reluctant to accept children with significant emotional problems. Also, it is difficult to find foster homes that will care for these children. The committee proposed that some regional centers with adequate consultative services be made available for these children. This would most probably come under the State Department of Social Services and was brought to that department's attention, and Dr. Archie Ellis replied that his department was currently looking into the problem. To the committee's knowledge, the only facility in the State which is actively dealing in this problem is the Episcopal Children's Home in York, South Carolina. Perhaps, if the State is not going to construct any facilities in the near future, some type of contract arrangement could be made with the Episcopal Children's Home so as to prevent the expense of keeping these children for long periods of time in expensive hospital beds. Planning also might possibly be done to include facilities for these children as a part of the village system of the State Department of Mental Health.
- (4) The committee noted and commends

the Department of Corrections for increased psychiatric involvement and the evaluation and treatment of juvenile offenders. Members of the Committee had knowledge of children as young as seven years old in detention centers and ten and twelve year olds in jail, so there is continued need for development and staffing of special facilities for the juvenile offender.

- (5) The committee again noted the unreasonable restrictions and limitations for psychiatric care and Medicare coverage. Medicare for out-patient services will pay a psychiatrist only 62.5 percent of the allowed charges for out-patient care, whereas, it will pay a non-psychiatrist physician 80 percent. A non-psychiatrist physician can treat a medicare patient in the office and receive 80 percent of his allowed charges, while a psychiatrist can treat a similar patient and be paid only 62.5 percent of his allowed charges under Medicare. The committee recommends that mental disorders be afforded the same coverage and consideration, and that psychiatrists receive 80 percent of their allowed charges as other physicians.
- (6) The committee repeats the recommendation of its 1971-72 report that at least one minor tranquilizer such as Valium and all the commonly used major tranquilizers be included in the State Medicaid Formulary.

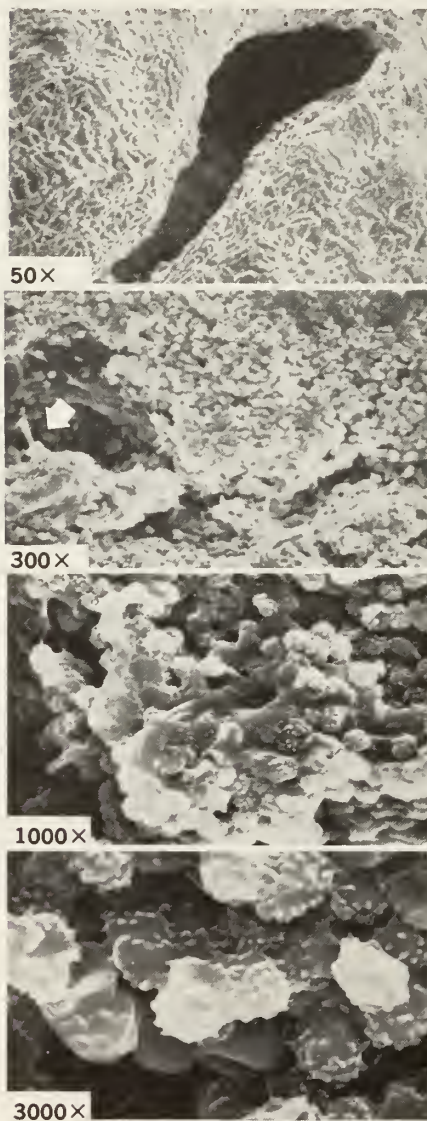
Respectfully submitted,  
Committee on Mental Health  
R. Bruce Ford, M.D., Chairman

# Progress in

## Diagnosis

In these illustrations of tissue from a patient with acute cystitis, you can see the swollen and inflamed mucosa of the ureteral orifice (50 $\times$ ), a fibrin strand (300 $\times$ ), and a whitish exudate composed of polymorphonuclear leukocytes (1000 $\times$  and 3000 $\times$ ). The photographs were taken with the scanning electron microscope (SEM) by Dr. Shirley Siew, Associate Professor of Pathology at the University of Pittsburgh School of Medicine. They come from the clinical exhibit "Scanning Electron Microscopy of Urinary Tract Infection," which won first prize in Clinical Research at the May 1972 meeting of the American Urological Association.

The scanning electron microscope promises to be extremely useful in its investigation of human pathology. In time, examination of tissue with the SEM is likely to play a significant role in the diagnosis of urinary tract infection.



### A note on the photography:

These photographs were made by the scanning electron microscope, which, like the transmission electron microscope, operates on the basic principle of exposure of tissue to a beam of electrons in a vacuum. With the SEM, electrons bombard the surface of tissue which has been given a fine coating of gold. The electrons reflect off the tissue onto a television screen, and the resulting photograph shows a three-dimensional effect. The tissue sections need not be ultrathin, so there is a minimum of handling and distortion.

Just as much an instrument of progress and just as helpful in its way has been Gantrisin (sulfisoxazole) Roche, developed and introduced a generation ago. However, there's been no generation gap over its continuing usefulness. In fact, Gantrisin, with so many years of clinical experience behind it, is still one of the most valuable drugs we have for the treatment of non-obstructed cystitis, pyelitis or pyelonephritis due to susceptible organisms such as *E. coli*. Specifically, Gantrisin provides your patients with certain important therapeutic advantages:

**References:** 1. Bran, J. L.; Karl, D. M., and Kaye, D.: *Clin. Pharmacol. Ther.*, 12:525, 1971. 2. Burke, E. C., and Stickler, G. B.: *Mayo Clin. Proc.*, 44:318, 1969. 3. Hibbard, L. T., in Bulger, M. J., et al.: *Patient Care*, 1:(3) 47, 1967. 4. Holloway, W. J.; Furlong, J. H., and Scott, E. G.: *J. Urol.*, 102:249, 1969. 5. House, T. E., et al.: *Obstet. Gynecol.*, 34:670, 1969. 6. Lampe, W. T.: *J. Am. Geriatr. Soc.*, 16:798, 1968. 7. Moffat, N. A., and Wenzel, F. J.: *Curr. Ther. Res.*, 13:286, 1971. 8. Normand, I. C. S.: *Practitioner*, 204:91, 1970. 9. Pryles, C. V.: *Med. Clin. North Am.*, 54:1077, 1970. 10. Seneca, H.; Peer, P., and Warren, B.: *J. Urol.*, 99:337, 1968. 11. Trafton, H. M., and Lind, H. E.: *J. Urol.*, 101:392, 1969. 12. Cohen, M.: *Pediatrics*, 50:271, 1972.

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Nonobstructed urinary tract infections (mainly cystitis, pyelitis, pyelonephritis) due to susceptible organisms.

**IMPORTANT NOTE:** *In vitro* sensitivity tests not always reliable; must be coordinated with bacteriological and clinical response. Add aminobenzoic acid to follow-up culture media. Increasing frequency of resistant organisms limits usefulness of antibacterial agents, especially in chronic and recurrent urinary infections. Maximum safe total sulfonamide blood level, 20 mg/100 ml;

measure levels as variations may occur.

**Contraindications:** Hypersensitivity to sulfonamides; infants less than 2 months of age; pregnancy at term and during the nursing period.

**Warnings:** Safety in pregnancy not established. Do not use for Group A beta-hemolytic streptococcal infections, as sequelae (rheumatic fever, glomerulonephritis) are not prevented. Deaths reported from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias. Sore throat, fever, pallor, purpura or jaundice may be early indications of serious blood disorders. CBC and urinalysis with careful microscopic



# acute cystitis:

## Treatment

**high urinary levels** As a urinary antibacterial, Gantrisin (sulfisoxazole) offers your patients important advantages. Therapeutic urinary and plasma concentrations are usually reached in from 2 to 3 hours and can be maintained on the recommended 4 to 8 Gm/day dosage schedule that's convenient for almost all patients.

**generally good tolerance** Gantrisin causes relatively few undesirable reactions, and serious toxic reactions are rare. Minor reactions are comparatively infrequent, but may include nausea, headache and vomiting. Hence, Gantrisin may usually be given even for extended periods when treating chronic or recurrent nonobstructed cystitis, pyelitis or pyelonephritis due to *E. coli* and other susceptible organisms. (See Important Note in summary of prod-



uct information.) Complete blood counts and urinalyses, with careful microscopic examination, should be performed frequently.

**high solubility** Gantrisin (sulfisoxazole) Roche is one of the most soluble of all sulfonamides, with both free and acetylated forms highly soluble in the commonly encountered urinary pH range of 5.5 to 6.5. Urine levels have been detected in

60 minutes; therapeutic levels are usually reached in from 2 to 3 hours. About 90% of a single dose is excreted in 24 to 48 hours. As with all sulfonamides, adequate fluid intake must be maintained.

**economy** Average cost of therapy is still only about 6½¢ per tablet.

**total therapy: 14 days** Recent evidence in the medical literature suggests that therapy in acute non-obstructed urinary tract infections should be continued for 10 to 14 days even if patients become asymptomatic in 2 or 3 days, as they often do.<sup>1-11</sup> However, one investigator, evaluating a 5-year study of sulfisoxazole used to treat urinary tract infection in 368 girls, found no advantage in continuing therapy more than two weeks for a first infection.<sup>12</sup>

For acute, chronic or recurrent nonobstructed cystitis, pyelitis,  
or pyelonephritis due to susceptible organisms...

begin with  
**Gantrisin®**  
sulfisoxazole/Roche®

Usual adult dosage: 4 to 8 tablets *stat*  
2 to 4 tablets *q.i.d.*

examination should be performed frequently.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy or bronchial asthma. Hemolysis, frequently dose-related, may occur in glucose-6-phosphate dehydrogenase-deficient patients. Maintain adequate fluid intake to prevent crystalluria and stone formation.

**Adverse Reactions:** *Blood dyscrasias:* Agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia; *Allergic reactions:* Erythema multiforme (Stevens-Johnson

syndrome), generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis; *Gastrointestinal reactions:* Nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis; *C.N.S. reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia; *Miscellaneous reactions:* Drug fever, chills and toxic nephrosis with oliguria and anuria. Periarteritis nodosa and L.E. phenomenon have occurred. Due

to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Supplied:** Tablets containing 0.5 Gm sulfisoxazole.



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# ALCOHOLISM

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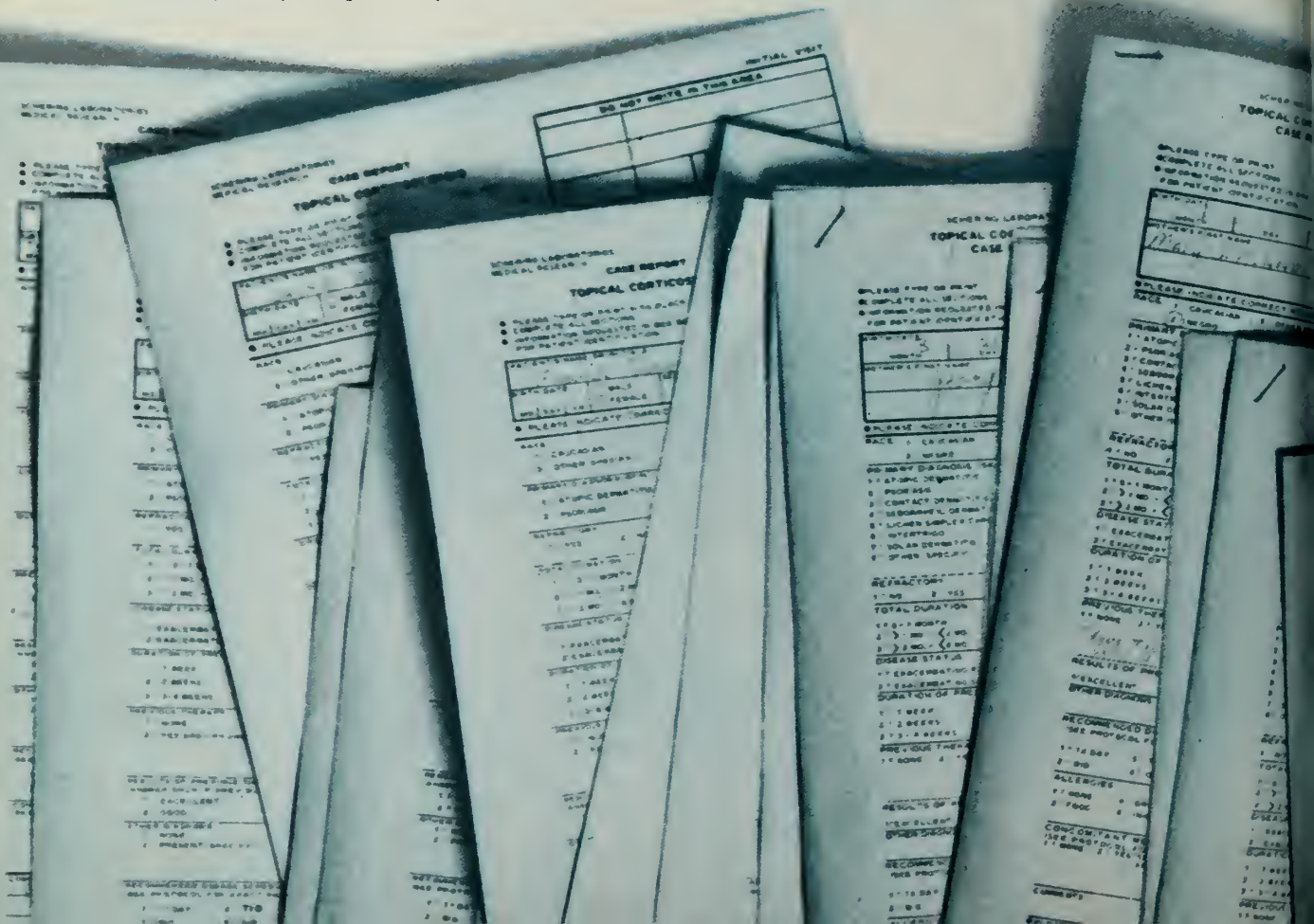
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# Rondomycin<sup>®</sup>

(methacycline HCl)

**CONTRAINDICATIONS:** Hypersensitivity to any of the tetracyclines

**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**

**Usage in pregnancy.** (See above **WARNINGS** about use during tooth development.) Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.

**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in prematures given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.

Tetracyclines are present in milk of lactating women taking tetracyclines.

To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.

Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.

In venereal disease, when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.

Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.

In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).

Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS. Gastrointestinal** (oral and parenteral forms) anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.

**Skin:** maculopapular and erythematous rashes, exfoliative dermatitis (uncommon). Photosensitivity is discussed above. (See **WARNINGS**.)

**Renal toxicity:** rise in BUN, apparently dose related. (See **WARNINGS**.)

**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.

Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.

Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.

**USUAL DOSAGE: Adults** — 600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea. In uncomplicated gonorrhea, when penicillin is contraindicated, Rondomycin<sup>®</sup> (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q i d, for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of Rondomycin<sup>®</sup> (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up including laboratory tests, is recommended.

Eaton Agent pneumonia: 900 mg daily for six days.

**Children** — 3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.

**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.

In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.

**SUPPLIED:** Rondomycin<sup>®</sup> (methacycline HCl) 150 mg and 300 mg capsules, syrup containing 75 mg/5 cc methacycline HCl.

Before prescribing, consult package circular or latest PDR information.

Rev. 6/73



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**[methacycline HCl] Capsules**

**Delivers from the very first dose:**

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**Usage:** Apply where it hurts with gentle massage. May be repeated as often as necessary. A first aid in injuries, relieving pain and discouraging infection. Useful in industrial clinics—collegiate and professional athletic training programs.

*\*You may request a clinical supply.*

Dispensed in 4 oz. bottles, 6 oz. aerosol spray, pint and half gallon bottles.



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GENERAL SURGEON — available August 1974. University trained, Board Eligible. Currently serving in armed forces. Interested in any opportunities for practice in South Carolina. Please reply to Box D, SCMA, 113 North Coit Street, Florence, S. C. 29501

### **OPHTHALMOLOGIST AVAILABLE**

Ophthalmologist—will complete military duty summer 1974. University trained, interested in group, solo, or association type practice. Reply to Box C, SCMA, 113 North Coit Street, Florence, S. C. 29501

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RADIOLOGIST—Will finish residency June, 1974; university trained in diagnosis, nuclear medicine, & therapy; experience in x-ray equipment industry prior to medical school & knows costs, etc., Age 28. Reply to Box A, SCMA, 113 N. Coit St., Florence, S. C. 29501

#### PRESCRIBING INFORMATION Antiminth (pyrantel pamoate) Oral Suspension

**Actions.** Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13 µg/ml.) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

**Indications.** For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

**Warnings.** *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

**Precautions.** Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

**Adverse Reactions.** The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

**Dosage and Administration.** *Children and Adults:* Antiminth Oral Suspension (50 mg. of pyrantel base/ml.) should be administered in a single dose of 11 mg. of pyrantel base per kg. of body weight (or 5 mg./lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 cc. of Antiminth per 10 lb. of body weight. (One teaspoonful = 5 cc.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

**How Supplied.** Antiminth is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg. pyrantel base per ml., supplied in 60 cc. bottles.

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A division of Pfizer Pharmaceuticals  
New York, New York 10017



# Clean Sweep



## with a single dose of Antiminth

(pyrantel pamoate) ORAL SUSPENSION

Highly effective against pinworm and roundworm

Non-staining to teeth or oral mucosa on ingestion, to stools, clothing, linen

Simple dosage with a single-dose regimen: 1 cc. per 10-lb. body weight (1 tsp./50 lb.; maximum dose, 4 tsp.)

Well-tolerated, based on clinical studies\*

Pleasant-tasting, easy-to-take, caramel-flavored oral suspension

Economical, because one prescription can treat the entire family

**ROERIG** *Pfizer*

A division of Pfizer Pharmaceuticals  
New York, New York 10017

# ANTIMINTH<sup>®</sup>

(pyrantel pamoate)

equivalent to 50 mg. pyrantel/ml.

ORAL SUSPENSION

While Antiminth is highly effective against pinworms and roundworms, the illustration is not meant to imply 100% efficacy.  
\*Data on file at Roerig. Please see prescribing information on facing page.

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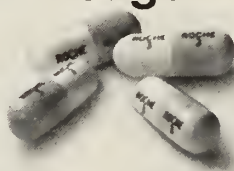
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1 capsule t.i.d./q.i.d.



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Nutley, N.J. 07110

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age require that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Supplied:** Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

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VOLUME 69

DECEMBER, 1973

NUMBER 12

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JAN 10 '74

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Before deciding to make Valium (diazepam) part of your treatment plan, check on whether or not the patient is presently taking drugs and, if so, what his response has been. Along with the medical and social history, this information can help you determine initial dosage, the possibility of side effects and the ultimate prospects of success or failure.

While Valium can be a most helpful adjunct to your counseling, it should be prescribed only as long as excessive psychic tension persists and should be discontinued when you decide it has accomplished its therapeutic task. In general, when dosage guidelines are followed, Valium is well tolerated (see Dosage). For convenience it is available in 2-mg, 5-mg and 10-mg tablets.

Drowsiness, fatigue and ataxia have been the most commonly reported side effects.

Until response is determined, patients receiving Valium should be cautioned against engaging in hazardous occupations requiring complete mental alertness, such as driving or operating machinery.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.


**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

**Dosage:** Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

**Supplied:** Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg; bottles of 100 and 500. All strengths also available in Tel-E-Dose® packages of 1000.

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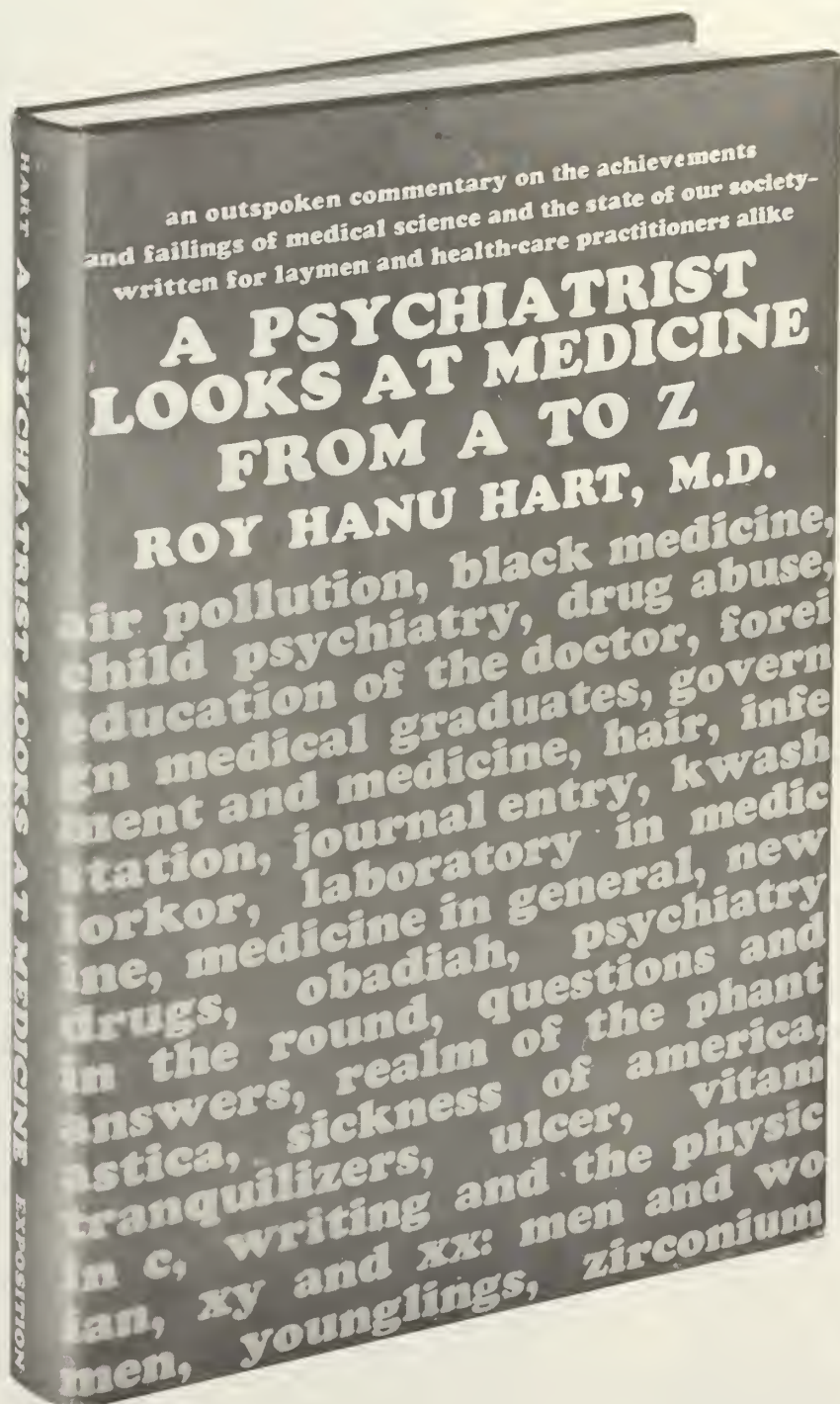
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DECEMBER, 1973—VOL. 69, NO. 12

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The views expressed in this publication are those of the writers and do not necessarily reflect the opinions of the South Carolina Medical Association.

## Contributions of Original Articles

Mailing address—Edw. E. Kimbrough, M.D., Editor. 2709 Laurel Street, Columbia, S. C. 29204.

Length—Short articles of about 2,500 words (about 8 typewritten pages, double spaced) are preferred. Longer articles ordinarily will defer to the shorter ones in schedule of publication.

Manuscripts—Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.

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**Important Note:** This drug is not a simple analgesic. Do not administer casually. Carefully evaluate patients before starting treatment and keep them under close supervision. Obtain a detailed history, and complete physical and laboratory examination (complete hemogram, urinalysis, etc.) before prescribing and at frequent intervals thereafter. Carefully select patients, avoiding those responsive to routine measures, contraindicated patients or those who cannot be observed frequently. Warn patients not to exceed recommended dosage. Short-term relief of severe symptoms with the smallest possible dosage is the goal of therapy. Dosage should be taken with meals or a full glass of milk. Patients should discontinue the drug and report immediately any sign of: fever, sore throat, oral lesions (symptoms of blood dyscrasias); dyspepsia, epigastric pain, symptoms of anemia, black or tarry stools or other evidence of intestinal ulceration or hemorrhage, skin reactions, significant weight gain or edema. A one-week trial period is adequate. Discontinue in the absence of a favorable response. Restrict treatment periods to one week in patients over sixty.

**Indications:** Acute gouty arthritis, rheumatoid arthritis, rheumatoid spondylitis.

**Contraindications:** Children 14 years or less; senile patients; history or symptoms of G.I. inflammation or ulceration including severe, recurrent or persistent dyspepsia; history or presence of drug allergy; blood dyscrasias; renal, hepatic or cardiac dysfunction; hypertension; thyroid disease; systemic edema; stomatitis and salivary gland enlargement due to the drug; polymyalgia rheumatica and temporal arteritis; patients receiving other potent chemotherapeutic agents, or long-term anticoagulant therapy.

**Warnings:** Age, weight, dosage, duration of therapy, existence of concomitant diseases, and concurrent potent chemotherapy affect incidence of toxic reactions. Carefully instruct and observe the individual patient, especially the aging (forty years and over) who have increased susceptibility to the toxicity of the drug. Use lowest effective dosage. Weigh initially unpredictable benefits against po-

tential risk of severe, even fatal, reactions. The disease condition itself is unaltered by the drug. Use with caution in first trimester of pregnancy and in nursing mothers. Drug may appear in cord blood and breast milk. Serious, even fatal, blood dyscrasias, including aplastic anemia, may occur suddenly despite regular hemograms, and may become manifest days or weeks after cessation of drug. Any significant change in total white count, relative decrease in granulocytes, appearance of immature forms, or fall in hematocrit should signal immediate cessation of therapy and complete hematologic investigation. Unexplained bleeding involving CNS, adrenals, and G.I. tract has occurred. The drug may potentiate action of insulin, sulfonylurea, and sulfonamide-type agents. Carefully observe patients taking these agents. Nontoxic and toxic goiters and myxedema have been reported (the drug reduces iodine uptake by the thyroid). Blurred vision can be a significant toxic symptom worthy of a complete ophthalmological examination. Swelling of ankles or face in patients under sixty may be prevented by reducing dosage. If edema occurs in patients over sixty, discontinue drug.

**Precautions:** The following should be accomplished at regular intervals: Careful detailed history for disease being treated and detection of earliest signs of adverse reactions; complete physical examination including check of patient's weight; complete weekly (especially for the aging) or an every two week blood check; pertinent laboratory studies. Caution patients about participating in activity requiring alertness and coordination, as driving a car, etc. Cases of leukemia have been reported in patients with a history of short- and long-term therapy. The majority of these patients were over forty. Remember that arthritic-type pains can be the presenting symptom of leukemia.

**Adverse Reactions:** This is a potent drug; its misuse can lead to serious results. Review detailed information before beginning therapy. Ulcerative esophagitis, acute and reactivated gastric and duodenal ulcer with perforation and hemorrhage, ulceration and perforation of large bowel, occult G.I. bleeding with anemia,

gastritis, epigastric pain, hematemesis, dyspepsia, nausea, vomiting and diarrhea, abdominal distention, agranulocytosis, aplastic anemia, hemolytic anemia, anemia due to blood loss including occult G.I. bleeding, thrombocytopenia, pancytopenia, leukemia, leukopenia, bone marrow depression, sodium and chloride retention, water retention and edema, plasma dilution, respiratory alkalosis, metabolic acidosis, fatal and nonfatal hepatitis (cholestasis may or may not be prominent), petechiae, purpura without thrombocytopenia, toxic pruritus, erythema nodosum, erythema multiforme, Stevens-Johnson syndrome, Lyell's syndrome (toxic necrotizing epidermolysis), exfoliative dermatitis, serum sickness, hypersensitivity angitis (polyarteritis), anaphylactic shock, urticaria, arthralgia, fever, rashes (all allergic reactions require prompt and permanent withdrawal of the drug), proteinuria, hematuria, oliguria, anuria, renal failure with azotemia, glomerulonephritis, acute tubular necrosis, nephrotic syndrome, bilateral renal cortical necrosis, renal stones, ureteral obstruction with uric acid crystals due to uricosuric action of drug, impaired renal function, cardiac decompensation, hypertension, pericarditis, diffuse interstitial myocarditis with muscle necrosis, perivascular granulomata, aggravation of temporal arteritis in patients with polymyalgia rheumatica, optic neuritis, blurred vision, retinal hemorrhage, toxic amblyopia, retinal detachment, hearing loss, hyperglycemia, thyroid hyperplasia, toxic goiter, association of hyperthyroidism and hypothyroidism (causal relationship not established), agitation, confusional states, lethargy; CNS reactions associated with overdosage, including convulsions, euphoria, psychosis, depression, headaches, hallucinations, giddiness, vertigo, coma, hyperventilation, insomnia; ulcerative stomatitis, salivary gland enlargement. (B)98-146-800-F (10/71)

For complete details, including dosage, please see full prescribing information.

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# **It's time for action to defend the laws and regulations that protect your patients against drug substitution.**

**These professional and trade organizations are united  
in supporting antisubstitution statutes and regulations:**

The American Academy of Dermatology

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Association





## Joint Statement on Antisubstitution Laws and Regulations

The purpose of this statement is to affirm the support of the participating organizations for the laws, regulations and professional traditions which prohibit the unauthorized substitution of drug products.

Traditionally, physicians, dentists and pharmacists have worked cooperatively to serve the best interests of patients. Productive cooperation has been achieved through mutual respect as well as a common concern for the ideals of public service. This mutual respect has been reflected, in part, by joint support over the years for the adoption and enforcement of laws and regulations specifically prohibiting unauthorized substitution and encouraging joint discussion and selection of the source of supply of drug products. The basic principles of medical, dental and pharmacy practice are thus utilized and preserved in the interest of patient welfare.

The antisubstitution laws have not obstructed enhancement of the professional status of pharmacy any more than they have in and of themselves guaranteed absolute protection from unsafe drugs, or freed physicians, dentists and pharmacists from their responsibilities to patients. As a practical matter, however, such laws and regulations encourage inter-professional communications regarding drug product selection and assure each profession the opportunity to exercise fully its expertise in drug usage, to the advantage of patients.

Physicians and dentists should be urged to increase the frequency and regularity of their contacts with pharmacists in selection of quality drug products, recognizing that

economies to patients can be improved through such communication, taking into account the patients' needs. The pharmacist's knowledge of the chemical characteristics of drugs, their mode of action, toxic properties and other characteristics that assist in making drug selection decisions should be utilized to the fullest extent practicable by physicians and dentists in serving their patients.

Since drug product selection entails knowledge derived from clinical experience, the physician's and dentist's roles in product selection remain primary and do not permit delegation of decisions requiring medical and dental judgments. A broader role in therapy will evolve for pharmacists as improved understanding and cooperation among the professions continue to grow.

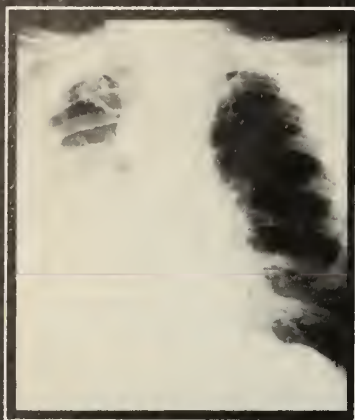
There has been no evidence that there are convincing reasons to modify or repeal existing laws and regulations prohibiting the unauthorized substitution of another drug product for the one specified by a prescriber. It is our belief that such laws and regulations merit the joint support of the medical, dental and pharmaceutical professions and the pharmaceutical industry.

Add your opinion to the weight of other professionals and send it to your state assemblyman or legislator.

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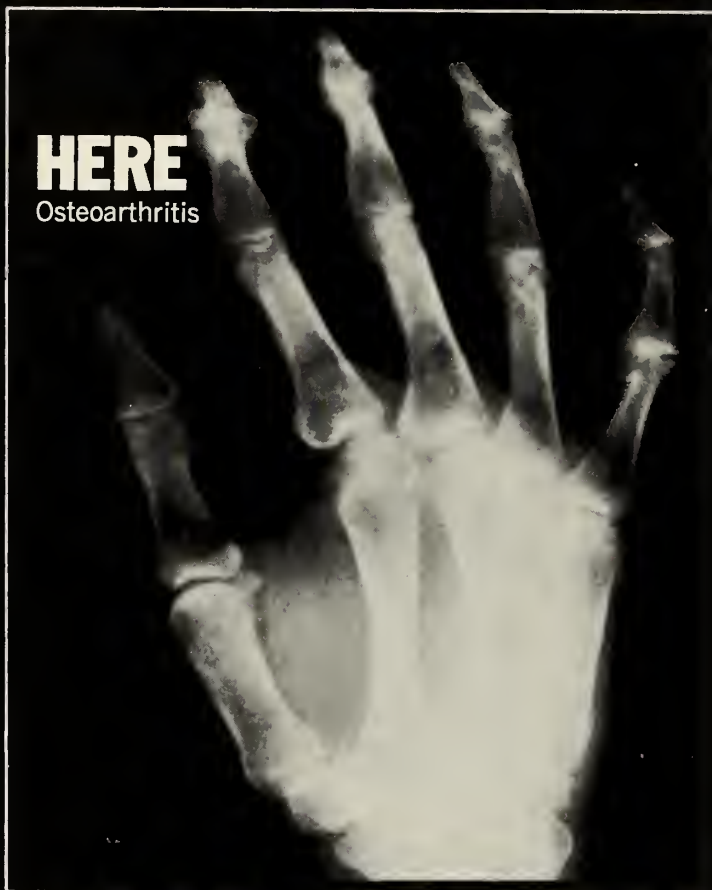


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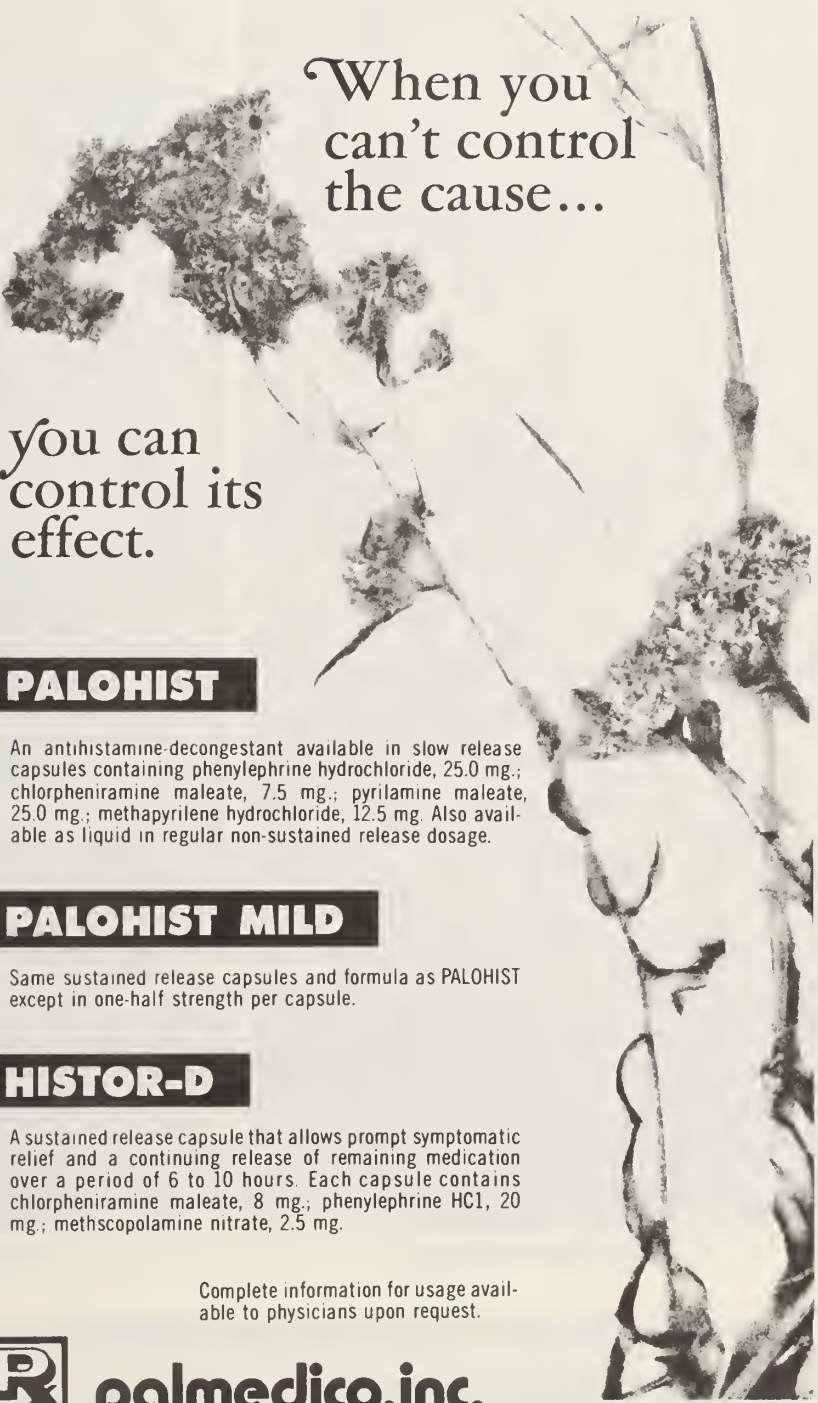
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# Gantanol® (sulfamethoxazole) and the

## 0.1 M.I.C. for three hours

Similar elongations  
occur regardless of  
antibacterial used.

## 1.0 M.I.C. for three hours

Similar midcell  
defects seen with  
increased antibac-  
terial concentrations.

## 10 M.I.C. for three hours

Similar spheroplast-  
like forms appear  
with high  
concentrations of  
the antibacterials.



E. coli + sulfamethoxazole



E. coli + tetracycline

## The Scanning Electron Microscope (SEM) reveals the effect

**The *in vitro* experiment.** These SEM photomicrographs were taken as part of a study exploring the effects of various antibacterials with different modes of action on the surface morphology of bacteria. The scanning electron microscope was used because of its ability to show three-dimensional views of organisms, enabling better definition and appreciation of surface morphology.

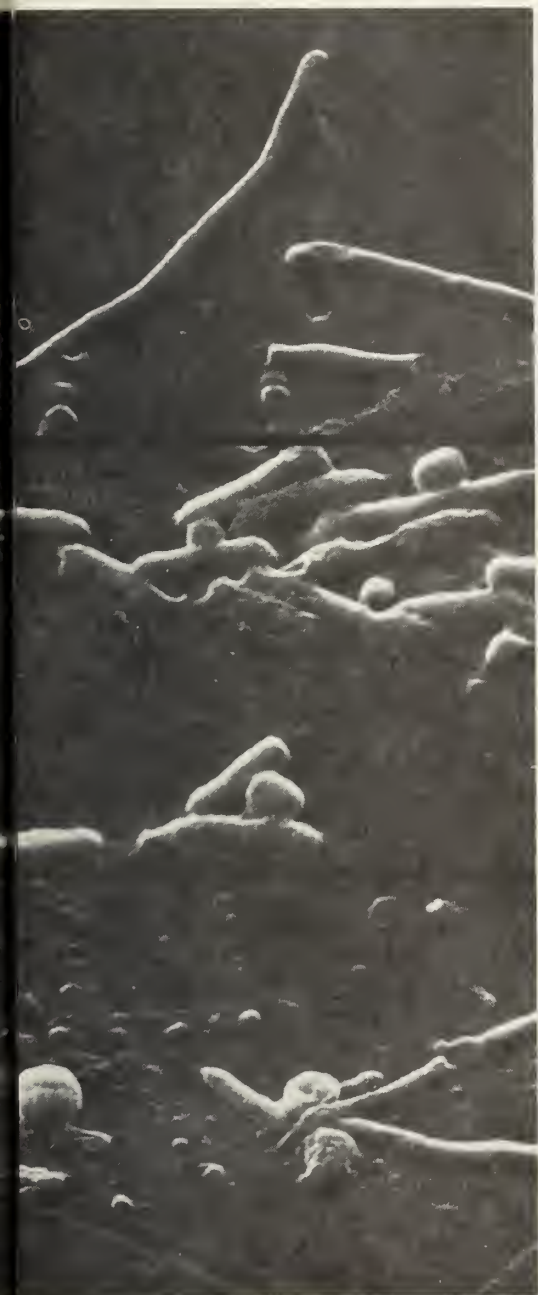
For this portion of the experiment, *E. coli* were exposed to the following agents: sulfamethoxazole, a chemical drug which acts by interference with para-

aminobenzoic acid utilization; tetracycline, which interferes with intracellular protein synthesis; and cephalothin and ampicillin, which are cell-wall-active drugs.

Strains of *E. coli*, each susceptible to the respective antibacterials, were exposed for 15, 30, 60, 120 and 180 minutes and 18 hours to several concentrations of each agent.

Following the 180-minute or three-hour exposures to the antibacterials at 0.1 M.I.C., 1.0 M.I.C. and 10 M.I.C., photoscans of the *E. coli* were taken. As shown above, regardless of the antibacterial agent used or its mode of action, the changes in surface morphology were remarkably similar... elongation at low drug concentrations, midcell defects at higher

# Three-Dimensional World of SEM



E. coli + cephalothin



E. coli + ampicillin

## of certain antibacterials on bacterial surface morphology

concentrations and ultimate progression to spheroplast-like forms.<sup>1</sup>

**The interpretation.** "At present, the significance of these observations in clinical infection must be considered with caution, but it is hoped that these data will stimulate a reevaluation of present concepts of the nature and role of morphological variants of bacteria exposed to a variety of antibacterial factors."<sup>2</sup>

It should be noted that this information represents only *in vitro* research. No clinical significance can be drawn from this study concerning the effective-

ness of any of the agents discussed, as it is not possible to extrapolate *in vitro* data to humans. This information is presented to demonstrate the continuing research activities in the area of antibacterials, particularly modes of action and surface morphology.

<sup>1</sup>Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

<sup>2</sup>*Antimicrob. Agents Chemother.*, 1:164, 1972.

See next two pages for product information.



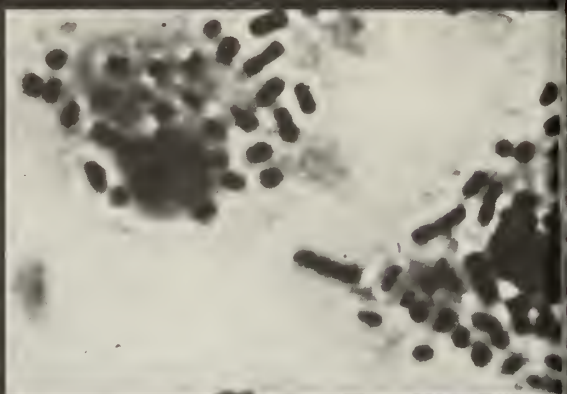
Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110



# Observations from



*E. coli*—Fluorescent stain



*Klebsiella* sp.—Stain to define capsular envelope

## ■ Effective control of primary susceptible bacterial offenders

Gantanol® (sulfamethoxazole) is effective against susceptible strains of *E. coli*, the most common cause of urinary tract infections. It is also highly effective against other susceptible gram-negative and gram-positive organisms, usually *Klebsiella-Aerobacter*, *Staph. aureus* and *Proteus mirabilis*.

## ■ Prompt antibacterial blood and urine levels—in from 2 to 3 hours

Antibacterial levels of Gantanol usually appear in blood and urine in from 2 to 3 hours after the initial 2-Gm adult dose. This rapid initiation of effective antibacterial activity enables prompt treatment of certain nonobstructed urinary tract infections and may also help avert possible sequelae.

## ■ Around-the-clock coverage for 14 days

Mounting evidence in current medical literature suggests a minimum of 14 days' continuous therapy for certain urinary tract infections.\* Following the initial 2-Gm adult dosage of Gantanol, each 1-Gm dose provides up to 12 hours of antibacterial activity during the treatment period. When urinary tract infection is more severe, *t.i.d.* (q. 8 h.) dosage schedule may be required. Both regimens provide around-the-clock therapy, important because normal urinary retention during sleep tends to favor bacterial proliferation. It is also convenient for patients not to have to take middle-of-the-night medication.

## ■ Also effective in certain nonobstructed chronic and recurrent urinary tract infection

Nonobstructed urinary tract infections, such as cystitis or pyelonephritis—chronic and/or recurrent—develop more commonly in the elderly and debilitated, and response to Gantanol is often highly satisfactory.

Before prescribing, please consult complete product information, a summary of which follows:

**Indications:** Acute, recurrent or chronic nonobstructed urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms. **Note:** Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

**Contraindications:** Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

**Warnings:** Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-

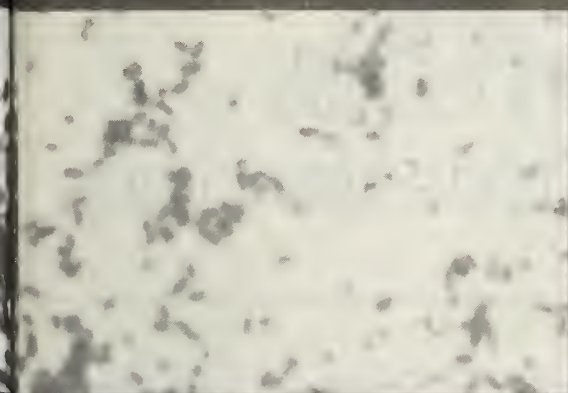
hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

**Precautions:** Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

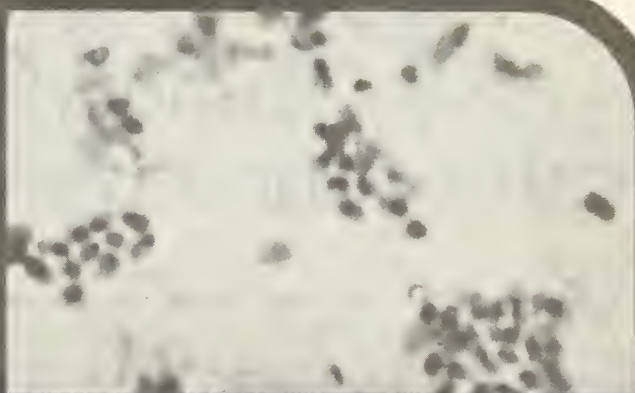
**Adverse Reactions:** Blood dyscrasias (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglo-



# clinical practice



*Enterobacter* sp.—Gram stain showing characteristic gram-negative rod



*Proteus mirabilis*—Flagella stain

## ■ Your option: tablets or suspension

Gantanol Tablets or the pleasant-tasting, cherry-flavored Suspension can provide dependable antibacterial activity to control susceptible nonobstructed cystitis and pyelonephritis. Symptomatic improvement usually may be expected to begin within 24 to 48 hours. Usual precautions with sulfonamide therapy should be observed, including adequate fluid intake. Gantanol is generally well tolerated, with relative freedom from complications; the most common side effects are nausea, vomiting and diarrhea. Frequent c.b.c.'s and urinalyses with microscopic examination are recommended during therapy.

\*Data on file, Hoffmann-La Roche Inc., Nutley, N.J.

n nonobstructed cystitis due to susceptible organisms

## Gantanol<sup>®</sup> B.I.D. (sulfamethoxazole) Basic therapy

anemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, rashes, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

**Dosage:** Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis).

*Usual adult dosage:* 2 Gm (4 tabs or teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

*Usual child's dosage:* 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially, then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

**Supplied:** Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.



Roche Laboratories  
Division of Hoffmann-La Roche Inc.  
Nutley, N.J. 07110

# Recommendations<sup>†</sup> on Combination Live Virus Vaccines

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## American Academy of Pediatrics

### Committee on Infectious Diseases

In the September 15, 1971 AAP News-letter sent to Academy members, the Committee on Infectious Diseases of the American Academy of Pediatrics stated its recommendations on the use of combination live virus vaccines. After a careful review of available data, the committee concluded that:

- "This information indicates that the products are both safe and effective when used as directed."
- The vaccine "...can, therefore, be recommended with the obvious advantages of reduction in the number of injections for any given child and a concomitant decrease in the required visits to a physician's office or clinic."

<sup>†</sup>For complete text of both recommendations see your MSD representative or write to Professional Service Dept., Merck Sharp & Dohme, West Point, Pa. 19486.

## United States Public Health Service

### Advisory Committee on Immunization Practices

In the April 24, 1971 issue of *Morbidity and Mortality Weekly Report*, the Advisory Committee on Immunization Practices of the United States Public Health Service presented recommendations on the use of combination live virus vaccines. The committee stated that:

- "Data indicate that antibody response to each component of these combination vaccines is comparable with antibody response to the individual vaccines given separately."
- "There is no evidence that adverse reactions to the combined products occur more frequently or are more severe than known reactions to the individual vaccines (see pertinent ACIP recommendations)."
- "The obvious convenience of giving already selected antigens in combined form should encourage consideration of using these products when appropriate."



# M-M-R<sup>\*</sup>

## (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE | MSD)

Single-dose vials

M-M-R, given in a single injection, fits easily into your routine immunization program for well babies. Given at age 12 months, M-M-R provides for vaccination early in life against measles, mumps, and rubella.

MSD suggested immunization schedule for well babies	
Age	Vaccine(s)
2 months	DPT (diphtheria-pertussis-tetanus) Oral poliomyelitis vaccine (triple)
3 months	DPT <sup>1</sup>
4 months	DPT Oral poliomyelitis vaccine (triple)
6 months	Oral poliomyelitis vaccine (triple)
12 MONTHS	M-M-R (MEASLES, MUMPS AND RUBELLA VIRUS VACCINE, LIVE, MSD)

1. This vaccination may be given at 3 months, 5 months, or at 6 months, depending on your preference or on the condition of the child.  
Since vaccination with a live virus vaccine may depress the results of a tuberculin test for four weeks or longer, the test and the vaccine should not be given during the same office visit.

<sup>\*</sup>Trademark of Merck & Co., Inc.

For a brief summary of prescribing information, please see following page.



# M-M-R

(MEASLES, MUMPS AND RUBELLA  
VIRUS VACCINE, LIVE | MSD)



Single-dose vials

**Contraindications:** Pregnancy or possibility of pregnancy within three months following vaccination; infants less than one year old; sensitivity to chicken or duck, chicken or duck eggs or feathers, or neomycin; any febrile respiratory illness or other active febrile infection; active untreated tuberculosis; therapy with ACTH, corticosteroids, irradiation, alkylating agents, or antimetabolites; blood dyscrasias, leukemia, lymphomas of any type, or other malignant neoplasms affecting the bone marrow or lymphatic systems; gamma globulin deficiency, i.e., agammaglobulinemia, hypogammaglobulinemia, and dysgammaglobulinemia.

**Precautions:** Administer subcutaneously; do not give intravenously. Epinephrine should be available for immediate use should an anaphylactoid reaction occur. Should not be given less than one month before or after immunization with other live virus vaccines, with the exception of monovalent or trivalent poliovirus vaccine, live, oral, which may be administered simultaneously; vaccination should be deferred for at least three months following blood transfusions or administration of more than 0.02 ml immune serum globulin (human) per pound of body weight, or human plasma.

Due caution should be employed in children with a history of febrile convulsions, cerebral injury, or any other condition in which stress due to fever should be avoided. The physician should be alert to the temperature elevation which may occur 5 to 12 days after vaccination.

Excretion of the live attenuated rubella virus from the throat has occurred in the majority of susceptible individuals administered the rubella vaccine. There is no definitive evidence to indicate that such virus is contagious to susceptible persons who are in contact with the vaccinated individuals. Consequently, transmission, while accepted as a theoretical possibility, has not been regarded as a significant risk.

Attenuated live virus measles, mumps, and rubella vaccines, given separately, may temporarily depress tuberculin skin sensitivity; therefore, if a tuberculin test is to be done, it should be scheduled before vaccination, to avoid the possibility of a false negative response.

Before reconstitution, refrigerate vaccine at 2-8 C (35.6-46.4 F) and protect from light. Use only diluent supplied to reconstitute vaccine. If not used immediately, return reconstituted vaccine to refrigerator at 2-8 C (35.6-46.4 F), and discard after eight hours.

**Adverse Reactions:** To date, clinical evaluation has not revealed any adverse reactions peculiar to the combination. The adverse reactions that occurred were limited to those that have been reported previously for the component vaccines.

Fever, rash; mild local reactions such as erythema, induration, tenderness, regional lymphadenopathy; parotitis; thrombocytopenia and purpura; allergic reactions such as urticaria; arthritis, arthralgia, and polyneuritis.

Occasionally, moderate fever (101-102.9 F); less commonly, high fever (above 103 F); rarely, febrile convulsions.

Encephalitis and other nervous system reactions that have

occurred very rarely with the individual vaccines may also occur with the combined vaccine. Experience from more than 44 million doses of all live measles vaccines given in the U.S. by mid-1971 indicates that significant central nervous system reactions such as encephalitis, occurring within 30 days after vaccination, have been temporally associated with measles vaccine approximately once for every million doses. In no case has it been shown that reactions were actually caused by vaccine. The Center for Disease Control has pointed out that "a certain number of cases of encephalitis may be expected to occur in a large childhood population in a defined period of time even when no vaccines are administered. A survey conducted in New Jersey in 1965 showed that 2.8 cases of encephalitis (of unknown cause) occurred per million children, ages 1-9 years per 30-day period." However, the Center for Disease Control has analyzed the reported reactions following measles vaccines and pointed out that "the clustering of cases in the period 6 through 13 days after inoculation as well as the recovery of measles virus (probably the vaccine strain) from the CSF of one patient does suggest that some of these cases may have been caused by the vaccine." The risk of such serious neurological disorders following live measles virus vaccine administration remains far less than that for encephalitis with measles (one per thousand reported cases).

Transient arthritis, arthralgia, and polyneuritis are features of natural rubella and vary in frequency and severity with age and sex, being greatest in adult females and least in prepubertal children. Such reactions have been reported with live attenuated rubella virus vaccines. Symptoms relating to joints (pain, swelling, stiffness, etc.) and to peripheral nerves (pain, numbness, tingling, etc.) occurring within approximately two months after immunization should be considered as possibly vaccine related. Symptoms have generally been mild and of no more than three days' duration. The incidence in prepubertal children would appear to be less than 1% for reactions that would interfere with normal activity or necessitate medical attention.

**How Supplied:** Single-dose vials of lyophilized vaccine, containing when reconstituted not less than 1,000 TCID<sub>50</sub> (tissue culture infectious doses) of measles virus vaccine, live, attenuated, 5,000 TCID<sub>50</sub> of mumps virus vaccine, live, and 1,000 TCID<sub>50</sub> of rubella virus vaccine, live, expressed in terms of the assigned titer of the FDA Reference Measles, Mumps, and Rubella Viruses, and approximately 25 mcg neomycin, with a disposable syringe containing diluent and fitted with a 25-gauge, 3/8" needle. Also in boxes of 10 single-dose vials nested in a pop-out tray with a separate box of 10 diluent-containing syringes.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486.

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There is a coding system used for Blue Shield claims. There is another coding system used for Medicare Part B and Medicaid claims.

You don't like having to use three different claim forms. Neither do we. You don't like having two separate coding systems. Neither do we. We are trying to do something about this!

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We have proposed one set of codes for all three programs, based on a national coding system already in use in some parts of our country.

We will help you and our company at the same time if and when we can implement these proposed changes. We'll keep you posted.

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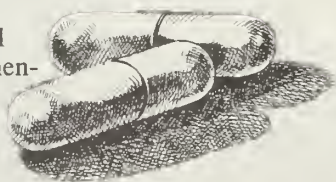




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### **Helps reduce anxiety-related G.I. symptoms**

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**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Patients with glaucoma; prostatic hypertrophy and benign bladder neck obstruction; known hypersensitivity to chlordiazepoxide hydrochloride and/or clidinium bromide.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering Librium (chlordiazepoxide hydrochloride) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards. As with all anticholinergic drugs, an inhibiting effect on lactation may occur.


**Precautions:** In elderly and debilitated, limit dosage to smallest effective amount to preclude development of ataxia, oversedation or confusion (not more than two capsules per day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients. Employ usual precautions

in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** No side effects or manifestations not seen with either compound alone have been reported with Librax. When chlordiazepoxide hydrochloride is used alone, drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally with chlordiazepoxide hydrochloride, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax are typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy and constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.



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### ACHALASIA: THE CURRENT STATUS OF ITS PATHOPHYSIOLOGY

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#### INTRODUCTION

Willis first described the entity that has come to be known as achalasia in 1679 as "an obstruction of the stomach either by a tumor or by palsy."<sup>1</sup> In 1904, Von Mikulicz proposed that the etiology of the condition had a direct causal relationship to spasm of the cardiac sphincter and that the ensuing proximal dilatation was secondary to the collection of food. The concept of spasm as the etiology of the obstruction was challenged by Einhorn, Rolleston and Hurst as they independently demonstrated the ease with which tubes could be passed through the cardiac sphincter.<sup>1</sup> While no obstruction was evident, there was still no explanation for the absence of relaxation of the cardia until Rake in 1926 described a degeneration or absence of the esophageal myenteric ganglion cells in the presence of subacute inflammation, with the paucity of cells increasing as one proceeded cephalad.<sup>2,1</sup> Hurst and Rake reported in 1929, eleven cases of degeneration of the myenteric plexus with the conclusion that the failure of the cardiac sphincter to relax was secondary to the degeneration, which

blocked the release of the cardiac sphincter from the inhibitory effect of the vagus. In 1952, Wooler proposed a reversal with the supposition that the primary lesion was esophageal dilatation with achalasia being a secondary manifestation. Zenker, as would be expected, defined the etiology to be simply a weakening of the esophageal muscles. Others have shown conclusively however, that far from being weakened or paralyzed, even in the advanced stages of dilatation, powerful although uncoordinated contractions can be demonstrated.<sup>1</sup>

In 1929, Kimura proposed a central etiology of lesions in nerve cells of the dorsal nuclei of the vagus, in the vagal oblongatal nuclei, and in the spinal portion of the nucleus ambiguus.<sup>2,3</sup>

For the sake of completeness of etiological considerations, one must include the aspect of psychiatric overtones. In the past, cardiospasm has been attributed to "irrational love" and "uncontrolled desires."<sup>1</sup> However, while it is true that episodes of cardiospasm may have their onset following a sudden emotional disturbance in emotionally unstable individuals, most such ideas have been abandoned in favor of a more anatomical approach.<sup>2,4</sup>

The entity of achalasia is easily defined

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as having three basic characteristics: decreased esophageal tone, lack of propulsion, and abnormal peristaltic wave pattern.<sup>4</sup> Beyond this, however, there is much variance. Estimates of incidence vary markedly.<sup>5</sup> Texts offer opinions of predominance in women to statements of no sexual predominance. The purpose of this paper is to review the literature up to the present with an emphasis on the factual state of the pathophysiology.

### PATHOPHYSIOLOGY

As defined by Van Trappen et al, the achalasic esophagus shows no effective peristaltic waves.<sup>6</sup> These are, in fact, replaced by simultaneous, non-propulsive contractions. Waves of deglutition start, peak, and end simultaneously at different levels of the esophagus. There is, in addition, a failure of relaxation at the gastro-esophageal (GE) sphincter following deglutition and often early, non-peristaltic contractions in that region. As a result of this non-propulsive activity, the esophageal-gastric pressure gradient is reduced or even reversed, further hindering the normal passage of esophageal contents.

Creamer et al have done an in-depth study of GE sphincter pressure under a variety of conditions.<sup>7</sup> He has found that in both normal subjects and those with achalasia, the GE sphincter at rest shows cyclical variations in pressure, dependent primarily on respiration. As would be expected, the esophageal pressure increases with inspiratory effort, whereas the gastric pressure recordings decrease with inspiration. Utilizing serial pressure determinations, Van Trappen et al were able to define an area in the esophagus extending 1.5 cm below the diaphragm and 1.5 cm above it, wherein the maximum intraluminal pressure during inspiration was reached.<sup>8</sup> This area could be defined in both achalasics and normals, with comparable dimensions and pressure recordings in both. Similar areas were defined during expiration with different boundaries. Despite the fact that these resting pressure values were quite comparable in

both normals and achalasics, the act of swallowing introduced marked and easily recognizable differences. In normals, the high pressure zone in the GE sphincter is temporarily abolished during swallowing. By contrast, in achalasics there is a slight increase in intraluminal pressure, often repeated two or three times. Also, at the completion of deglutition, there is an increase in GE sphincter pressure, which is of equal amplitude and duration among both achalasics and normals, which shows a consistently earlier onset in achalasics. The net result of this change in activity is the abolition of normal GE sphincter activity resulting in partial or complete obstruction.

Classically, the etiology of achalasia has been presumed to be the absence or decrease in the number of cells in Auerbach's plexus located in the muscular coat of the esophagus. This theory is supported by recent histologic and physiologic findings. Waller et al showed that the ganglion cells were completely absent from the majority of achalasic specimens examined and that none of the ganglia which were present appeared normal.<sup>8</sup> Silver stains demonstrated the absence of argyrophilic neuronal tissue which was often replaced by Schwann cells.

In keeping with this hypothesis is the apparent gastrin hypersensitivity found in many achalasia patients.<sup>9</sup> In these patients, acidification of gastric contents to a pH of 1.5, which reflexly decreases gastrin output, caused a decrease in the GE sphincter pressure of 87 per cent, whereas similar treatment and controls resulted in about 68 per cent decrease in pressure. Also, when a synthetic gastrin compound was administered intravenously, both controls and achalasics demonstrated greater than 400 per cent increase in GE sphincter pressure.<sup>9</sup> However, it took considerably less gastrin to produce this effect in achalasics, that is, the dose-response curve in achalasics is shifted significantly to the left when compared with normals. This phenomenon is presumed to

be due to a decrease in local innervation.

The work of Cassella et al partially supports this view.<sup>2</sup> A comparison of a number of ganglion cells in Auerbach's plexus at a point 2 cm cephalad from the cardia showed a marked difference between controls and achalasics, the former having an average of 35 cells, the latter having none. Examination at points further up the esophagus showed a gradual decrease in the number of cells in controls, but never to the level of the achalasic specimens. Other histologic features pointed out by Cassella included the remarkable variation in wall thickness in achalasia, from diffuse thickening to abnormal thinning. He also pointed out the occasional appearance of a mononuclear cell infiltrate in the muscularis layer.

The finding of decreased myenteric ganglion cells was found in 68 per cent of diagnosed achalasic cases. The remainder was histologically unremarkable. However, in a more significant majority of cases, electron micrographic examination of the vagus nerve revealed a picture similar to Wallerian degeneration, with discontinuity of axon and Schwann cell membranes associated with swellings of axonic lumen and destruction of neurofilaments. It is his contention, therefore, that the primary site of involvement is not in myenteric plexus itself, but that this degeneration is secondary to extraesophageal neuronal involvement.

The possibility of a more central neurologic lesion has been postulated by others. Elder reviewed the literature on achalasia in children and found that of nine reported cases, four had histologically normal esophageal tissue.<sup>10</sup> He considered this sufficient evidence to hypothesize a Wallerian-type degeneration of the vagus nerve. Experimentally, in the cat whose esophagus approximates that of the human with respect to structure and function, a decreased esophageal response to nicotinic agents in achalasic cats indicates a muscular denervation. Abnormalities in vagus function may be inferred from re-

sults of the Hollander Insulin Hypoglycemia Test.<sup>11</sup> Of thirteen achalasic patients tested, 30 per cent had abnormal responses which would be consistent with decreased vagus activity. Higgs and his co-workers have demonstrated the possibility of an even more centralized lesion, using both cats and dogs as experimental models.<sup>12</sup> The use of both animals was justified in that cats, as previously stated, closely approximate humans; however, most of the previous literature has dealt with dog experiments. Electrolytic lesions were placed in the brain stem of each animal at predetermined locations. Five of ten dogs with bilateral lesions of the nucleus ambiguus showed classical signs of achalasia including regurgitation, aperistalsis, and decreased relaxation of the GE sphincter. Nine of thirteen cats with bilateral dorsal motor nucleus lesions were similarly affected. Neither cats with nucleus ambiguus lesions nor dogs with dorsal motor nucleus lesions showed such signs or symptoms. The difference is attributed to the altered proportions of smooth and striated muscle in the esophagus. The dog has a preponderance of striated muscle, controlled by the nucleus ambiguus. In contrast, the cat has more smooth muscle controlled by the dorsal motor nucleus.

Another aspect to be considered is the role of heredity. A pattern of esophageal achalasia has been observed in animal models. This has been observed in both male and female inbred wire-hair fox terriers. One dog, which was the sire of most of the stud dogs imported into the United States, was a direct ancestor of nearly all the dogs with achalasia. A pedigree analysis resulted in a hypothesis of an operative achalasia allele with complete phenotypic dominance.<sup>6</sup>

There have been only eight reported cases involving heredity in human achalasia, seven of which have been in siblings with one case being a mother and daughter.<sup>6</sup> Three cases showed varying degrees of mental and neurological deficiencies,



e.g. cerebellar ataxia, speech disorders, bilateral optic atrophy.<sup>5</sup>

### DIAGNOSIS

The natural history of achalasia is of a slowly progressive disease, usually starting in early adult life with, characteristically, obstruction that varies in intensity from day to day and is effected by the ingestion of cold and/or hot fluids, regurgitation of food that is easily differentiated from gastric contents by its form and "sweet" taste, and pain of variable quality. Most typically the pain is a gripping, retrosternal discomfort unrelated to eating. Due to the chronicity and the progressive dysphagia there is marked weight loss.<sup>13,14</sup>

Roentgenographically it is possible to stage achalasia by the diameter of the esophagus and correlate it to clinical findings. Stage I is defined as esophageal diameter less than 4 cm with the patient noting some degree of obstruction and esophageal discomfort; stage II is with an esophageal diameter of 4 - 6 cm with minimal complaints of post-prandial retrosternal fullness; stage III is a dilatation greater than 6 cm with complaints of fullness, regurgitation, and oft-times aspiration of food at night.<sup>13</sup>

By barium swallow the disordered peristaltic activity is evident as well as the marked dilatation, elongation, and tortuousness of the esophagus. Characteristically, one sees a sigmoid—or megaesophagus—tapering into a "bird beak" at the gastroesophageal junction.<sup>13,15</sup> The barium swallow should not be used as the major diagnostic criterion as the megaesophagus is also seen in Chagas disease, Riley-Day syndrome, or of obstructing lesions at the GE junction.<sup>15</sup>

The most definitive diagnostic tool is motor studies.<sup>13</sup> Swallowing normally produces a relaxation of the HPZ (high pressure zone of the GE junction) for 15-20 seconds followed by a contraction of comparable duration; in achalasia the HPZ has normal tone, but the relaxation phase is either absent or markedly reduced. The

contraction wave is of normal amplitude and duration but sequentially too early.<sup>13</sup> Manometric studies may also be of value. One sees an increase in pressure from the normal 0-5 cm H<sub>2</sub>O to 15-20 cm H<sub>2</sub>O in achalasia.<sup>15</sup>

### TREATMENT

Symptomatic medical treatment is inadequate. The best available therapy is forceful dilatation of the narrowed sphincter with the specific purpose of tearing some of the muscle fibers in this area.<sup>11,16</sup> The Starck dilator or other inflatable bags give much better results than the graduated mercury-tipped bougies with which dysphagia is relieved for only a short time. In the hands of an experienced individual, use of the Starck probang or balloon offers little chance of distal esophageal rupture and dysphagia is abated successfully for years, or even permanently, in up to 80 per cent of the cases.<sup>14,17</sup> Also, even with the disappearance of the supra-diaphragmatic portion of the sphincter, there is no gastroesophageal reflux.<sup>6</sup>

Formerly, the primary indication for a surgical approach was the development of the sigmoid or megaesophagus, and surgeons were reticent to consider an operative procedure as a primary mode of therapy.<sup>11,16</sup> Wingfield points out that the trend today is toward a greater utilization of surgery as the initial approach.<sup>18</sup> The classic procedure is the Heller cardiomyotomy which involves the longitudinal splitting of the muscular coat from the dilated esophagus thru the cardia.<sup>19</sup> Various reports offer "excellent results" (asymptomatic) in from 25 per cent to 80 per cent the cases; the best results are shown in those patients with a short history of symptoms.<sup>16,18,19</sup>

A new approach that seems to offer good results in the more progressed disease state is the fundic patch operation of Hatafuku and Thal.<sup>20</sup> This procedure involves doing a myotomy on the constricted segment, then a patch is developed up from the fundus that gives near complete wrap-



ping of the circumference of the esophagus for a distance of at least 5 cm in length and the over-inversion of the inferior portion of the reconstruction is used to create a mucosal rosette which acts as a one-way valve, thereby negating the hazard of reflux.<sup>20</sup> The reported series is of 18 patients with varying degrees of esophageal dilatations: less than 3.5 cm, one patient; 3.5-6.0 cm, nine patients; greater than 6.0 cm, eight patients. The results were most promising in that sixteen patients were free of dysphagia with resumption of oral intake; two patients (greater than 6.0 cm dilatation) had minimal dysphagia for the first couple of months post-op. but were symptom free in two to three years. Interestingly on the average of one year post-op. there was a reduction in esophageal diameter by 57 per cent. There were

no cases of reflux esophagitis.<sup>20</sup>

Two other surgical techniques of lesser value are the Heinecke-Mikulicz plastic repair and resection of the esophagus and proximal stomach with esophagogastrostomy.<sup>10,18</sup>

### CONCLUSION

In summary, the question of the pathophysiology of achalasia is still unanswered. While most authors accept the classical theory concerning decreased ganglion cells in Auerbach's plexus, the possibility of a more central lesion has been raised and supported. The diagnosis and treatment of the phenomenon are essentially unchanged. ACKNOWLEDGMENT: We are indebted to Dr. Frank H. Gruber for the intellectual stimulation he provided along with his superb teaching.

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## SOME THOUGHTS ON "SOCIALIZED MEDICINE"

J. C. MOORE, JR.\*

Having spent two and one-half months this summer in Great Britain, studying the structure and function of the British National Health Service at King's Fund of Hospital Management and working in a large teaching hospital, I would like to reflect on my experiences in what we Americans often euphemistically describe as a "socialized" medical system.

Appreciate, please, that my purpose here is not to meticulously describe the organization or functioning of that system, but rather to clear up what I believe to be some common misbeliefs held by medical and lay men alike in this country.

The man that said, "A little knowledge is a dangerous thing," could not have illustrated better his point than in referring to many of our attitudes toward the health care system that supposedly exemplifies the evils of big government and little doctor. We Americans are notoriously suspicious of any organizational framework that doesn't reek of capitalism, and thus we shouldn't be surprised that many of our physicians wince at the thought of not owning their own store—lock, stock and barrel. Unfortunately, we may tend to lambaste too quickly what we really do not understand. I, personally, was a bit skeptical before my trip. Are the doctors really the puppets of idealistic, socialistic administrators? Must they truly moonlight on weekends to make ends meet? The answer is no.

What is "socialized medicine"? First, let me tell you what it is not. It is not a plan where the doctor is pawn and the Queen is king. Physicians have complete clinical

autonomy with regard to their patients. The doctor's interests are well represented in the planning and decision-making that involve him. Indeed, the British Medical Association wields almost as much power (Is it possible!) as our own AMA. The physician may see patients privately for a fee, as well as caring for his National Health Service patients. His practice may be entirely private if he so desires, although only a small percentage of doctors choose this route. The government does not tell a physician where he must practice, although if he works for the NHS he may be told that he cannot work in areas in which there are too many physicians. Generally, incentives such as offering to construct an office for a general practitioner and paying the majority of the nurses' and receptionists' salaries suffice to insure equitable distribution of needed manpower. The physician has the right to choose his patients, and the patient may select any doctor who is willing to accept him.

There is no government monopoly on health care. Private health insurance is available for those who do not wish to avail themselves of the NHS, although everyone must pay NHS premiums. To complement this arrangement, private wards in National Health Service hospitals are obtainable, as are wholly private hospitals.

What, exactly, is the National Health Service? It is a superior example of how effective health planning at a national and local level by a branch of the government empowered with monetary muscle can begin to deal with inequality and reduplication of services, financial strains on individual institutions as well as patients,

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and a host of other problems inherent in a dog-eat-dog system where it's every man for himself. It is an attempt at integration of all health and social services—hospital, general practitioner, public health, geriatric and mental care, dentistry, ambulance, pharmacy and social services, into a single organizational framework with comprehensive planning at both national and local levels. It is not the hospital-based, acute care medicine that we practice, but a sweeping and widespread attack that sets its sights on problems of preventive, ambulatory, and home health care.

But does all of this work? I believe that it does work remarkably well. The man in the street is generally satisfied. "Does it really cost that much to get sick in America," they ask, and, "You mean your doctors don't make house calls!" True, he may have to wait two years to get his varicose veins ligated, but he knows that if he gets sick he will get good care and is one hundred percent covered financially. When he becomes old, it won't cost his family a dime for his stay in a geriatric center, and if he can't make the trip, the NHS will provide all transportation.

Am I advocating introduction of this type of National Health Service in this country? No. Admittedly, there are problems which remain to be resolved. Many physicians would like more pay. General practitioners complain of spoiled patients, presenting with trivial complaints. Some patients are inconvenienced by having to wait for non-critical work.

But the primary reason that I will not hasten to embrace the British concept here is that I am opposed in principle to the concept of governmental initiative in health affairs. Even though my experience has proven to me that the NHS can pro-

vide a good, comprehensive health service to the people of Britain, I would prefer to hope that we can begin to accomplish these same ends with the impetus for change coming from within that same medical profession that for decades has paced many of the world's important scientific achievements and discoveries.

Unfortunately, however, we have failed in that one important task — assuring good comprehensive health care to everyone at a reasonable cost. We can develop a better and more compact renal dialysis machine, but we can't guarantee that every middle-class American won't have to pay five thousand dollars a year to use it.

I believe that there is a crisis in health care in America today. The crisis appears more acute, however, when our own physicians, in the guise of the AMA, can offer no other solution than a ridiculous re-financing of our grossly inefficient, expensive, and unwieldy health program. As a result of my brief experiences abroad, I have become convinced that comprehensive health planning will do much to solve our serious problems; but the AMA apparently is blind to any organizational change. This is especially disheartening when one considers that the most workable changes could undoubtedly come from those professionals actively involved in health care.

In Britain, in 1946, all health services were placed under government control, simply because the existing disarray was not doing the job effectively. Will the same thing happen in America? It is only logical to assume that Uncle Sam will rightfully take the necessary steps to assure a good quality health program to his people in the event that such is not available through the private sector.



## X-RAY FILMS OF THE MONTH

### PLEURAL MESOTHELIOMA

KENNETH E. NUNNERY

Although pleural mesothelioma must still be considered a rare disease, it is seen frequently enough to be considered in the differential diagnosis of intrathoracic lesions.<sup>1,2</sup> In fact, the diagnosis should be entertained in patients with any degree of pleural effusions in which no cause can be established.

There are two types of pleural mesothelioma and their differentiation is of great significance to the patient's prognosis and treatment. Mesotheliomas are commonly divided into solitary and diffuse forms. Unfortunately, the solitary type, which is usually benign, is the rarer form of this lesion. It is usually fibrous in nature and is treated with complete excision.<sup>3</sup> The prognosis is good if no malignancy is found. The diffuse mesotheliomas, which are more common, differ greatly from the solitary forms. These lesions are malignant and are histologically epithelial in nature.<sup>3</sup> They bear a grave prognosis due to the poor results obtained from surgery, chemotherapy, or radiation therapy.<sup>2</sup>

The etiology of the solitary mesothelioma is not known but the diffuse type is closely related to previous exposure to asbestos. Wagner described thirty-three cases of diffuse mesothelioma of which thirty-two had evidence of known or potential exposure to asbestos.<sup>4</sup> The growing number of reports of individual cases suggests that mesothelioma is becoming a relatively frequent complication of asbestos exposure.<sup>4,5</sup>

The conclusive diagnosis of mesothelioma can only be made by tissue biopsy but the chest X-ray film may lead one to suspect the diagnosis. Solitary mesotheliomas are commonly seen as: 1. solitary tumors in contact with the chest wall which project into the pleural cavity; 2. tumors lying within an interlobar fissure; 3. tumors which appear to be within the lung parenchyma but actually are attached to the visceral pleura.<sup>6</sup> Pleural effusions are rare or late findings in the solitary form.<sup>3</sup> The diffuse, malignant type is usually seen as a large unilateral pleural effusion.<sup>4,7</sup> Occasionally, thickened pleura may be seen above the fluid level. The lesion may diffusely envelop the lung or appear as numerous discrete nodules. If there is marked mediastinal involvement, there may be little herniation of the effusion or shift of mediastinal structures due to the stiffness of the neoplastic tissue.<sup>2,7</sup> The lesion spreads by seeding of adjacent serosal surfaces; therefore, structures commonly involved are parietal and visceral pleura, diaphragm, mediastinum and pericardium. Distant metastases are rare but extension to supraclavicular and axillary nodes is frequently seen.<sup>2</sup>

Thoracentesis may be both diagnostic and therapeutic in these patients. The effusion is commonly sanguineous or serosanguineous and in the late stage may contain neoplastic cells.<sup>3</sup> Removal of the effusion may reveal nodular lesions or thickened pleura which is commonly first noted at the lung bases. Induced pneumo-

## PLEURAL MESOTHELIOMA



Figure 1. Early pleural effusion, 1971, no lesions are visible.



Figure 2. Post-thoracentesis. Tumor nodules noted at right apex of pleural cavity, with the lung seen contracted against the mediastinum.

thorax after thoracentesis may aid in revealing early thickened pleura or small nodular densities.<sup>2</sup> Late in the disease the neoplastic tissue completely encases the lung and it cannot be reinflated. There is marked reduction in the volume of the hemithorax by the lesion and the effusion returns quickly.<sup>7</sup>

These PA chest X-ray films are of a patient with diffuse pleural mesothelioma. A negative chest X-ray film was taken in 1965. Figure 1 is an X-ray taken in 1971, at which time a slight pleural effusion was noted at the right lung base, with no lesions seen on this film or at fluoroscopy. A later X-ray examination showed complete opacification of the right hemi-

thorax with herniation and shift of mediastinal structures. The last X-ray film, Figure 2, shows a catheter introduced to drain the effusion. A large pneumothorax is noted, with the lung contracted against the mediastinum by the lesion. Although poorly visualized on this film, tumor nodules are noted on the parietal pleura near the apex.

In conclusion, pleural mesothelioma should be considered in the differential diagnosis of nearly all intrathoracic lesions. There should also be suspicion of mesothelioma as the etiology of recurrent pleural effusions, for the early lesions are often not visible.

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# President's Pages



An Editorial by our Editor in the October issue of *The Journal of the South Carolina Medical Association* was titled "Welcome Aboard, Charlie Johnson." This was very timely and now that he has been welcomed, I would like for him to give you some of his impressions of the South Carolina Medical Association.

I have asked him to write some comments for the President's Pages for the month of December.

"The past three and one-half months spent as your new South Carolina Medical Association Executive Director have been rewarding and challenging.

"The cordial reception and kind hospitality which physicians and their families throughout the state have extended to me and my family have made the move to South Carolina a pleasant change and have made relocation problems minimal. The desire exhibited by most of the physicians I have met indicates that the Association should attempt to recognize the changes which are occurring in the health care field and should translate these changes into meaningful programs. These programs should allow physicians to continue to provide their patients with the highest quality of medical care found in the world today.

"The challenges which occur in trying to relate the Association to the needs of the members in the face of these changes in the health care system are almost too numerous to list. The administrative challenges of transferring the established Association headquarters from Florence to Columbia occur almost daily and will require several months to perfect, even after the Florence office is closed in December.

"The challenge of relating to a state legislature which seems determined to play an ever increasing role in health care is yet to be solved. The continuation of the 'Doctor of the Day' program in 1974 will establish a base of contact for our Association in the legislature. The staff will accept the responsibility of trying to follow action on all bills which affect the practice of medicine and health care in the state. Whether or not the Association and its individual members can impress individual legislators with our needs in the legislative field remains to be seen. To be successful, this effort will demand the cooperation of all South Carolina Medical Association members throughout the legislative session. No one person, either on the staff nor in the South Carolina Medical Association membership, nor any single committee can carry out this complicated and time-consuming function alone.

"Experience from 18 years of medical association work indicates that problems which medicine faces in South Carolina are no different than the problems being faced by organized medicine in other areas of the country. Our three and one-half



months of observing the South Carolina Medical Association activities does indicate, however, that medicine in South Carolina suffers from an internal handicap that is not evident in most other medical associations. This seems to be a lack of unified purpose and goals which results in indifference, and even opposition, on the part of some members to purposeful action undertaken by the state association.

"If there is any single factor which can cause the Association to fail in its objectives in meeting today's challenges, it will be the divisiveness which can come from indifference and opposition. In short, we can defeat our own purposes, or as the comic strip character, Pogo, once said, 'We have met the enemy and they is us.'

"The leaders of the Association are without question dedicated, sincere men, but they can succeed only if they have the backing and cooperation of the membership. So, the question of success and failure ultimately rests with each individual physician."

Harold P. Hope, M. D.  
President

—Charles Johnson  
December, 1973



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December, 1923

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# Editorials

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## **A Little Learning Is a Dangerous Thing**

An article in this issue of the *Journal of the South Carolina Medical Association* is written by a junior medical student at the Medical University of South Carolina, J. C. Moore, Jr., who spent four weeks this summer at King's Fund College of Hospital Management in London studying the structure and function of the British National Health Service. We thank Mr. Moore for sharing his learning with us. We respect Mr. Moore for his initiative in writing and submitting a well-done article for publication. We congratulate Mr. Moore for having an excellent and sharp writing pen. His reference to the National Health Service as "not a plan where the doctor is pawn and the Queen is king" is one of the most neatly turned phrases we have heard lately. Accept this as high credit from one who is a severe critic of neatly turned phrases. Despite all these good things, we must take considerable exception to Mr. Moore's position.

In the first place, we do not feel four weeks' study at the King's Fund College is sufficient qualification to make a valid judgment of the National Health Service. Nor do we believe that two years in medical school, even in Charleston, is sufficient learning to understand the complexities of the free enterprise system of health care delivery. This can be demonstrated by Mr. Moore's characterization of our system as "inequality and reduplication of services, financial strains on individual institutions as well as patients, and a host of other problems inherent in a dog-eat-dog system where it's every man for himself." Is that what American medicine really is? Of course not! We have no fear that a man of

Mr. Moore's obvious intelligence and sagacity will not come to see the remarkable strength and vitality of the American health care system. We agree with Mr. Moore's opinion that, "A little learning is a dangerous thing." But Mr. Moore's present orientation causes us to ponder two points. First, why should a bright young medical student after two years study at the Medical University of South Carolina see our medical system as "a dog-eat-dog system where it's every man for himself"? In all the rush to teach anatomy and physiology and ultra-microscopy, couldn't a little time be spent on learning how all this came about? Couldn't we expect our state-supported students to come out of their education with some insight into private medical care?

My second concern is with the attitude of the American community. Why can the National Health Service sell itself to the public and to young physicians (the tremendous outflow of British physicians would attest to the fact that more mature physicians are not enamoured with the National Health Service) so much better than we do? We believe it is because they try and we don't. But, we must. In our participatory democracy of today, any situation that does not have the support of the public cannot long survive, no matter how traditional it is. We must take heed and improve our public acceptance to the point that the public demands the continuation of the best medical system ever devised by man, the private practice system. We must eliminate the flaws and popularize the great advantages, or we might not survive the decade.

E.E.K.

## Why Your Journal Is Losing Money Part II: Internal Reasons

In Part I of this continuing story of why your journal is losing money, we cited the drain on advertising by the "throw-aways" that are abundantly supplied to us for the non-asking; and requested that each of you mention this to the detail men whose home office has decided to support that route of advertising rather than the state journals. I hope that you have remembered this and made your desires known. This month I have another request for you. Read on!

Although national advertising in the *Journal of the South Carolina Medical Association* has fallen off for the reasons mentioned it is still robust compared with the local advertising in the *Journal*. We are not getting the support from your business associates, your banker, your supplier, your insurance man, and your friends that we need to pay our own way in this competitive world. Although the rates are lower for local advertising than for national advertising, we get to keep all of the charges. National advertising is contracted through an agency which naturally gets its percentage. This fact makes local advertising an especially helpful source of revenue. To assure the survival of the *Journal of the South Carolina Medical Association*, get involved and concerned and do these three things:

1. Recommend your journal to anyone you know who might benefit from advertising in its pages. If you do not feel like soliciting ads, give us the name. We don't mind.

2. Patronize our local advertisers!

3. When you are doing business with our local advertisers, or even just talking to them, mention that you have noticed their advertisement in the *Journal* and congratulate them for their perspicacity. LET'S MAKE A PROFIT! That is not contrary to the South Carolina Medical Association Constitution.

E.E.K.

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### Hail and Farewell

With this the December issue of JSCMA, Mrs. Esther Temple of Garden City completes her work as Editor's Assistant. We will miss her. As long as I have been at the helm, Mrs. Temple provided the rudder, the sails, and the wind that kept this ship moving and on course. She is entering the real estate business in Garden City. If you want any real estate there you had better buy it now because with all her charm and energy, Mrs. Temple will soon sell out Garden City. As the sun sets slowly in the east over Garden City (strange things happen in the publishing industry) we bid a fond farewell to Mrs. Temple.

But all news is not bad. JSCMA has acquired the services of Mrs. Sandra Hungerford who will take on the duties of Editor's Assistant and Advertising Manager, and will be located in our central office in Columbia. Mrs. Hungerford has already made helpful changes in our format which will show up soon. She came to us from the Center for Shakespeare Studies at USC. So far we have not changed our type to *Old English Script*.

E.E.K.

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### Symposia Medica

Symposia Medica Foundation presents an International Conference on Clinical Problems in Ophthalmology and Otolaryngology to be held in Jerusalem, February 14-24, 1974.

For further information, contact:

Ms. Cynthia Soika, M.A.

Projects Director

Symposia Medica Foundation

305 East 24th Street

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**Dr. John A. Moncrief**, Medical University of South Carolina surgeon, has been installed as president of the American Association for the Surgery of Trauma. Dr. Moncrief is the developer of "sulfamylon," an antibacterial agent used in fighting infection in the treatment of burns, and has published nearly 300 works on burn treatment. **Dr. Delmar Rhame**, a Clinton doctor for forty years, received the Presbyterian College Alumni Gold P Award. **Dr. Julian P. Price**, a Florence pediatrician, received an honorary degree from Davidson College. **Dr. Richard H. Gadsden**, professor of clinical chemistry at the Medical University of South Carolina, has been chosen as president-elect of the Medical University Alumni Association. **Dr. Thomas M. Messervy** of Summerville will serve as vice-president.

**Dr. Hugh Vincent**, Anderson physician, has been appointed to his first full term as a member of the State Library Board. **Dr. Allen P. Jeter** of Winnsboro has been appointed to membership on the Medical Education Committee of the South Carolina Tuberculosis and Respiratory Disease Association. He will represent the TB-RD Association on the Committee for a period of three years. A plaque honoring **Dr. Joseph I. Waring** for his years of service was dedicated by the Charleston County Board of Health and its staff. **Dr. Laurie N. Ervin**, a Greenville surgeon, is the new president of the South Carolina Division of the American Cancer Society. **Dr. Leon Banov, Jr.**, Charleston physician, has been named by the Department of Health, Education and Welfare to serve on the food and Drug Administration Panel on Review of Hemorrhoidal Drugs.

**Dr. Lawrence L. Hester, Jr.**, chairman of the Department of Obstetrics and Gynecology at the Medical University, has been installed as a governor of the American College of Surgeons. New officers of the Kershaw County Memorial Hospital staff are: **Dr. Paul Wood**, chief of staff; **Dr. Alton Holland**, vice chief; and **Dr. L. H. Parrott**, the hospital's new pathologist, secretary. **Dr. Lawson Stoneburner**, past president of the Greenville Medical Society, has been elected a member of the South Carolina Appalachian Health Council.

**Dr. Arthur V. Williams** has been elected president of the Southeastern Dialysis and Transplant Association. Dr. Williams is professor of medicine and head of the nephrology division at the Medical University. **Dr. James McFarland**, director of internal medicine at Richland Memorial Hospital, has been elected as an at-large trustee of Davidson College. **Dr. LeRoy Bates**, a native South Carolinian, has been named medical director of Blue Cross and Blue Shield. A graduate of the Medical University of South Carolina, Dr. Bates has directed medical programs in Maryland, California and New York for the past 21 years.

Included among the South Carolina doctors named as Fellows of the American Academy of Family Physicians are: **Drs. Albert G. Oliver** of Abbeville; **Clarence E. Coker, Jr.** of Manning; **Marion Carr, Jr.** of Olanta; **Joseph T. Taylor, III** of Summerville; **Thomas Boyle Clark** of Marion; **Joseph Heriot Guess** of Union; **LaRue Merida Medlin** of Conway; **Homer Pittman Hines** of Chesnee; and **George P. Edwards** of Gaffney.

# CANCER TOPICS



PAUL H. O'BRIEN, M.D., F.A.C.S.\*

## Cancer Therapy — The Patient's Choice?

The title of the current article is taken from the Presidential Address by Arthur I. Holleb, M.D., to the James Ewing Society in April of 1973. The appropriate method for treatment of breast cancer has now become a matter of popular debate. Magazines designed for women contain articles which emphasize the right and privilege of the patient to decide the appropriate treatment for their own cancer. The majority of the articles conclude that standard, and generally accepted, wide-field surgical resection of the primary tumor and its regional lymph node basin should be discarded as excessively mutilating and provides no more protection than less disfiguring operations. This is in direct contradiction to what is considered to be the best available method of treatment by the American College of Surgeons and by the recently formed American Board of Medical Oncology.

As the subject has been exposed and reviewed on radio and television, the problem is presented by having an equal number of doctors espousing conventional procedures as those that consider the conventional procedures outmoded. The conclusion of lay observers of such presentations is that there is adequate evidence that a so-called simple lumpectomy may indeed protect the patient as much as the more extensive surgical procedure. The critics of the wide-field resectional approach to breast cancer are very small in

number. They are not the major spokesmen for any formally designated cancer center.

The debate has occasionally been so inappropriate as to conclude surgeons advising mastectomy are sadomasochistic male chauvinists who apparently enjoy excising the female breast. Other excessive statements have been that the indications for the conventional radical mastectomy are for a larger fee. This certainly would not apply to the many proponents of the radical mastectomy in all recognized cancer centers and/or medical universities wherein the income of the fulltime oncologist is unaffected by the surgical procedure performed.

It is sometime forgotten in the steam of the controversy that the burden of proof is on the proponents of limited procedures described as lumpectomy, local excisions, partial mastectomy, and/or tylectomy. Limited series of such procedures that have been analyzed have not shown such procedures to be as effective as mastectomy.

Because of this controversy, the American Cancer Society has recently formalized a policy on the treatments of breast cancer. This policy has been formulated to prevent the patient from having to decide her own therapy.

1. Removal of the entire breast (most often the radical or modified radical

mastectomy) is recommended for the surgical treatment of operable breast cancer.

2. Limited surgical procedures which remove less than the entire breast have not been scientifically proven to be as effective as mastectomy.
3. Recommendations for the treatment of breast cancer should be made by the physician on an individual basis only after careful evaluation aided by diagnostic studies. Such recommendations are related to the type, size, location, extent of tumor and other pertinent factors.
4. The patient and selected members of the family should be thoroughly advised by the physician about the proposed surgery and its rationale; this being the essence of informed consent.
5. The American Cancer Society is committed to rehabilitate the patient following surgery for breast cancer. The Society has developed the "Reach to Recovery" Program which, at the request of physicians, sends trained volunteers who have had a mastectomy and have adjusted well, to visit mastectomy patients in the hospital. This program now brings information; psychological, cosmetic and physical rehabilitation to about one of every two women undergoing mastectomy in the United States. The Society takes the position that

most of the physical and emotional problems related to mastectomy can be offset by planned rehabilitation. This, plus every reasonable chance for cure, is the right of every woman who develops breast cancer.

6. The American Cancer Society is continuing its support of research into the causes, detection, diagnosis and treatment of breast cancer as one of its highest priorities. It is our belief and hope that the tragic toll from this disease can be prevented by early diagnosis and early treatment. We also believe that American women should be well informed about these medical matters so that they may intelligently discuss these important considerations with their respective physicians.
7. Finally, any patient having breast cancer or indeed suspecting that she may have breast cancer, should consult a physician who is knowledgeable in this field, seek his advice and rely on his judgment in the selection of treatment for her individual medical situation.

The patient with breast cancer should not accept the extra burden of deciding her own therapy. More information is needed from scientific studies to improve current conventional therapeutic techniques. It is doubtful if such information will be forthcoming from the TV talk shows and ladies' magazines.



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**Contraindications:** Hypersensitivity to any component; concurrent MAO inhibitor therapy; severe hypertension; bronchial asthma; coronary artery disease; stenosing peptic ulcer; pyloroduodenal or bladder neck obstruction. Children under 6.

**Warnings:** Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Warn patients of possible additive effects with alcohol and other CNS depressants.

**Usage in Pregnancy:** In pregnancy, nursing mothers and women who might bear children, weigh potential benefits against hazards. Inhibition of lactation may occur.

**Effect on PBI Determination and <sup>131</sup>I Uptake:** Isopropamide iodide may alter PBI test results and will suppress <sup>131</sup>I uptake. Substitute thyroid tests unaffected by exogenous iodides.

**Precautions:** Use cautiously in persons with cardiovascular disease, glaucoma, prostatic hypertrophy, hyperthyroidism.

**Adverse Reactions:** Drowsiness, excessive dryness of nose, throat or mouth; nervousness; or insomnia. Also, nausea, vomiting, epigastric distress, diarrhea, rash, dizziness, weakness, chest tightness, angina pain, abdominal pain, irritability, palpitation, headache, incoordination, tremor, dysuria, difficulty in urination, thrombocytopenia, leukopenia, convulsions, hypertension, hypotension, anorexia, constipation, visual disturbances, iodine toxicity (acne, parotitis).

**Supplied:** Bottles of 50 capsules.

SK&F Smith Kline & French Laboratories

How to better achieve a smooth "pill" response :

# A blueprint for introducing

- I. If one "pill" were right for every woman, we'd make it.

```
graph TD; A["Patient need for contraception<br/>Medical history, physical examination<br/>Past pill experience"] -.-> B["Known special hormonal needs"]; A --> C[ ]; B -.-> D[ ]
```

Patient need for contraception  
Medical history, physical examination  
Past pill experience

Known special hormonal needs

# "the pill" to your patient

2. Demulen, a 50-mcg. "low-estrogen" pill, is a logical first choice.
3. If your patient requires a different hormonal balance temporarily or for the long term—Searle offers you alternatives

For a "standard" 50-mcg. start

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Available in 21- and 28-pill schedules. Each white tablet contains: ethynodiol diacetate 1 mg./athinyl estradiol 50 mcg. Each pink tablet in Demulen-28® is a placebo, containing no active ingredients.

A moderately progestogen-dominant combination with low estrogenic activity.\*

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Available in 20- and 21-pill schedules. Each tablet contains: norethynodral 2.5 mg. mestranol 0.1 mg.

An estrogen-dominant combination with no androgenic activity.\*

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Where "The Pill" Began

Note: Oral contraceptives are complex medications. As with all medications they should be prescribed with discriminating care, and only after reference to full prescribing information. For brief summary of prescribing information, please see next page.



# If one "pill" were right for every woman, we'd make it.

## **Ovulen®** Available in 20-, 21- and 28-pill schedules

Each white tablet contains: ethynodiol diacetate 1 mg./mestranol 0.1 mg.  
Each pink tablet in Ovulen-28® is a placebo, containing no active ingredients.

## **Demulen®** Available in 21- and 28-pill schedules

Each white tablet contains: ethynodiol diacetate 1 mg./ethinyl estradiol 50 mcg.

Each pink tablet in Demulen-28® is a placebo, containing no active ingredients.

**Actions**—Ovulen and Demulen act to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Ovulen and Demulen depress the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Special note**—Oral contraceptives have been marketed in the United States since 1960. Reported pregnancy rates vary from product to product. The effectiveness of the sequential products appears to be somewhat lower than that of the combination products. Both types provide almost completely effective contraception.

An increased risk of thromboembolic disease associated with the use of hormonal contraceptives has now been shown in studies conducted in both Great Britain and the United States. Other risks, such as those of elevated blood pressure, liver disease and reduced tolerance to carbohydrates, have not been quantitated with precision.

Long-term administration of both natural and synthetic estrogens in subprimate animal species in multiples of the human dose increases the frequency of some animal carcinomas. These data cannot be transposed directly to man. The possible carcinogenicity due to the estrogens can be neither affirmed nor refuted at this time. Close clinical surveillance of all women taking oral contraceptives must be continued.

**Indication**—Ovulen and Demulen are indicated for oral contraception.

**Contraindications**—Patients with thrombophlebitis, thromboembolic disorders, cerebral apoplexy or a past history of these conditions, markedly impaired liver function, known or suspected carcinoma of the breast, known or suspected estrogen-dependent neoplasia and undiagnosed abnormal genital bleeding.

**Warnings**—The physician should be alert to the earliest manifestations of thrombotic disorders (thrombophlebitis, cerebrovascular disorders, pulmonary embolism and retinal thrombosis). Should any of these occur or be suspected the drug should be discontinued immediately.

Retrospective studies of morbidity and mortality conducted in Great Britain and studies of morbidity in the United States have shown a statistically significant association between thrombophlebitis, pulmonary embolism, and cerebral thrombosis and embolism and the use of oral contraceptives. There have been three principal studies in Britain<sup>1,2</sup> leading to this conclusion, and one<sup>3</sup> in the United States. The estimate of the relative risk of thromboembolism in the study by Vessey and Doll<sup>3</sup> was about sevenfold, while Sartwell and associates<sup>4</sup> in the United States found a relative risk of 4.4, meaning that the users are several times as likely to undergo thromboembolic disease without evident cause as non-users. The American study also indicated that the risk did not persist after discontinuation of administration and that it was not enhanced by long-continued administration. The American study was not designed to evaluate a difference between products. However, the study suggested that there might be an increased risk of thromboembolic disease in users of sequential products. This risk cannot be quantitated, and further studies to confirm this finding are desirable.

Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions medication should be withdrawn.

Since the safety of Ovulen and Demulen in pregnancy has not been demonstrated, it is recommended that for any patient who has missed two consecutive periods pregnancy should be ruled out before continuing the contraceptive regimen. If the patient has not adhered to the prescribed schedule the possibility of pregnancy should be considered at the time of the first missed period.

A small fraction of the hormonal agents in oral contraceptives has been identified in the milk of mothers receiving these drugs. The long-range effect to the nursing infant cannot be determined at this time.

**Precautions**—The pretreatment and periodic physical examinations should include special reference to the breasts and pelvic organs, including a Papanicolaou smear since estrogens have been known to produce tumors, some of them malignant, in five species of subprimate animals. Endocrine and possibly liver function tests may be affected by treatment with Ovulen or Demulen. Therefore, if such tests are abnormal in a patient taking Ovulen or Demulen, it is recommended that they be repeated after the drug has been withdrawn for two months. Under the influence of progestogen-estrogen preparations preexisting uterine fibromyomas may increase in size. Because these agents may cause some degree of

fluid retention, conditions which might be influenced by this factor, such as epilepsy, migraine, asthma, cardiac or renal dysfunction, require careful observation. In breakthrough bleeding, and in all cases of irregular bleeding per vaginam, nonfunctional causes should be borne in mind. In undiagnosed bleeding per vaginam adequate diagnostic measures are indicated. Patients with a history of psychic depression should be carefully observed and the drug discontinued if the depression recurs to a serious degree. Any possible influence of prolonged Ovulen or Demulen therapy on pituitary, ovarian, adrenal, hepatic or uterine function awaits further study. A decrease in glucose tolerance has been observed in a significant percentage of patients on oral contraceptives. The mechanism of this decrease is obscure. For this reason, diabetic patients should be carefully observed while receiving Ovulen or Demulen therapy. The age of the patient constitutes no absolute limiting factor, although treatment with Ovulen or Demulen may mask the onset of the climacteric. The pathologist should be advised of Ovulen or Demulen therapy when relevant specimens are submitted. Susceptible women may experience an increase in blood pressure following administration of contraceptive steroids.

**Adverse reactions observed in patients receiving oral contraceptives**—A statistically significant association has been demonstrated between use of oral contraceptives and the following serious adverse reactions: thrombophlebitis, pulmonary embolism and cerebral thrombosis.

Although available evidence is suggestive of an association, such a relationship has been neither confirmed nor refuted for the following serious adverse reactions: neuro-ocular lesions, e.g., retinal thrombosis and optic neuritis.

The following adverse reactions are known to occur in patients receiving oral contraceptives: nausea, vomiting, gastrointestinal symptoms (such as abdominal cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea during and after treatment, edema, chloasma or melasma, breast changes (tenderness, enlargement and secretion), change in weight (increase or decrease), changes in cervical erosion and cervical secretions, suppression of lactation when given immediately post partum, cholestatic jaundice, migraine, rash (allergic), rise in blood pressure in susceptible individuals and mental depression.

Although the following adverse reactions have been reported in users of oral contraceptives, an association has been neither confirmed nor refuted: anovulation post treatment, premenstrual-like syndrome, changes in libido, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, fatigue, backache, hirsutism, loss of scalp hair, erythema multiforme, erythema nodosum, hemorrhagic eruption and itching.

The following laboratory results may be altered by the use of oral contraceptives: hepatic function: increased sulfobromophthalein retention and other tests; coagulation tests: increase in prothrombin, Factors VII, VIII, IX and X; thyroid function: increase in PBI and butanol extractable protein bound iodine, and decrease in T<sub>3</sub> uptake values; metyrapone test and pregnanediol determination.

**References:** 1. Royal College of General Practitioners: Oral Contraception and Thrombo-Embolic Disease, J. Coll. Gen. Pract. 13:267-279 (May) 1967. 2. Inman, W. H. W., and Vessey, M. P.: Investigation of Deaths from Pulmonary, Coronary, and Cerebral Thrombosis and Embolism in Women of Child-Bearing Age, Brit. Med. J. 2:193-199 (April 27) 1968. 3. Vessey, M. P., and Doll, R.: Investigation of Relation Between Use of Oral Contraceptives and Thromboembolic Disease. A Further Report, Brit. Med. J. 2:651-657 (June 14) 1969. 4. Sartwell, P. E.; Masi, A. T.; Arthes, F. G.; Greene, G. R., and Smith, H. E.: Thromboembolism and Oral Contraceptives: An Epidemiologic Case-Control Study, Amer. J. Epidem. 90:365-380 (Nov.) 1969.

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Each tablet contains: norethynodrel 2.5 mg./mestranol 0.1 mg.

**Actions**—Enovid-E acts to prevent ovulation by inhibiting the output of gonadotropins from the pituitary gland. Enovid-E depresses the output of both the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH).

**Indication**—Enovid-E is indicated for oral contraception. The Special Note, Contraindications, Warnings, Precautions and Adverse Reactions listed above for Ovulen and Demulen are applicable to Enovid-E and should be observed when prescribing Enovid-E.

## **Enovid-E®**

brand of norethynodrel with mestranol

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Where "The Pill" Began

## DIAGNOSTIC PATTERNS IN DISABILITY SOUTH CAROLINA AND THE NATION\*

MARY T. TOBIN, M.D.

Under the provisions of the social security disability program, the nation's largest disability plan, a worker under 65 can receive monthly benefits if he or she becomes unable to work due to a mental or physical impairment that has lasted—or is expected to last—at least 12 months or is expected to result in death.

More than 96 million workers can count on monthly cash benefits in the event of such severe and extended disability. In addition, the dependents of these workers are also eligible for monthly benefits. Over 1.8 million workers and 1.4 million dependents are now receiving disability benefits at the rate of almost \$5 billion per year.

Currently, 31,701 disabled workers in South Carolina are collecting \$5,113,037 per month in benefits. In addition, 6,001 wives or husbands of disabled workers and 18,929 children of disabled workers in South Carolina are receiving \$270,366 and \$805,354, respectively.

The latest year for which tabulated data is available showing disabled worker diagnostic patterns by state is 1970. Disabled workers in South Carolina who began receiving benefits in that year constituted 5,321 of the 350,384 new beneficiaries nationwide.

\*This short statistical analysis of data compiled by the Social Security Administration shows the extent and nature of South Carolina's participation in the social security disability program. It compares some of the State's data with national averages, and includes a comparison of worker disability allowances by diagnostic groups for South Carolina and the U. S. overall.

Table 1 compares the frequency of diagnostic groups in South Carolina with the U. S. overall. It shows that diseases of the circulatory system comprised the largest diagnostic group in the country in 1970. Diseases of the musculo-skeletal system and mental disorders, including psychoneurotic and personality disorders, were the second and third largest diagnostic groups, respectively. All states do not, however, follow this pattern.

Within these overall diagnostic groups, the most prevalent *primary diagnosis* in both South Carolina and the nation in 1970 was chronic ischemic heart disease. South Carolina recorded 1,180 cases that year. The nation's second most common primary diagnosis, schizophrenic disorders, accounted for 275 cases in South Carolina. Following these, in order of decreasing national prevalence, was osteoarthritis and allied conditions, with South Carolina reporting 212 cases, followed by emphysema with 327 cases. There were 146 cases of displacement of intervertebral disc in South Carolina; 130 cases of diabetes mellitus, and rheumatoid arthritis and allied conditions accounted for 101 cases in South Carolina that year. Cerebrovascular disease, listed eighth among the most prevalent diagnoses in 1970, recorded 45 cases in South Carolina; malignant neoplasm of trachea and lung 89 cases; and neuroses ranked tenth with 190 cases.

Additional information about the social security disability program in South Carolina can be obtained through the Disability Determination Division, P. O. Box 4557, Columbia, S. C., Phone number 758-8750.



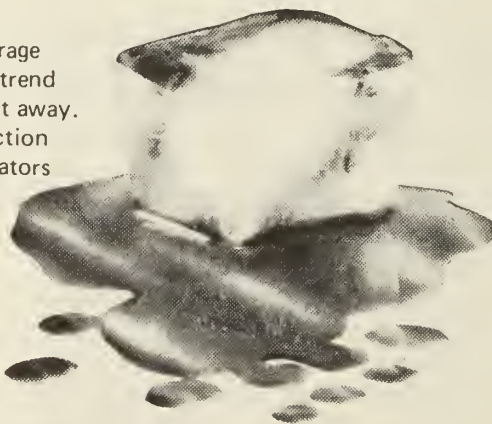
Table 1.—Social Security Worker Disability Allowances 1970 — Diagnostic Groups

Diagnostic Group		U. S.	South Carolina	
Diseases of the circulatory system .....	108,906	31.1%	1811	34.6%
Diseases of the musculo-skeletal system .....	52,086	14.9%	634	12.1%
Mental, psychoneurotic, and personality disorders	38,406	11.0%	734	14.0%
Neoplasms .....	36,095	10.3%	412	7.9%
Accidents, poisonings, and violence .....	28,231	8.1%	375	7.2%
Diseases of the respiratory system .....	24,254	6.9%	435	8.3%
Diseases of the nervous system and sense organs	22,575	6.4%	237	4.5%
Allergic, endocrine system, metabolic, and nutritional diseases .....	13,141	3.8%	200	3.8%
Diseases of the digestive system .....	9,051	2.6%	131	2.5%
Infective and parasitic diseases .....	8,760	2.5%	104	2.0%
Other .....	8,875	2.5%	158	3.0%
Total .....	350,384	100.0%	5231	100.0%

Figures may not total 100% due to rounding

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## **SOUTH CAROLINA REGIONAL MEDICAL PROGRAM**

**VINCE MOSELEY, M.D.**  
Coordinator, South Carolina

### **ONE MILLION DOLLARS ALLOTTED TO REGIONAL MEDICAL PROGRAM IN S. C.**

New funds in excess of one million dollars have been allotted to the South Carolina Regional Medical Program to operate more than a score of health projects, planning studies and contracts during the current Fiscal Year ending June 30, 1974.

Meeting in Columbia, Nov. 1, SCRMP's 47-member statewide Advisory Group reviewed the progress of the current 32 RMP activities and earmarked funds for 28 projects beginning Jan. 1.

The funds are being utilized to address many of the most pressing health care problems in the State and include such activities as strengthening local health planning, assistance in establishing quality assurance efforts, help in developing emergency medical services, expansion of the statewide program for patient care in kidney disease, improving heart and stroke services, providing specialized care for high-risk pregnancies, and acceleration of children's pulmonary screening program.

During the meeting the Advisory Group heard the SCRMP coordinator, Dr. Vince Moseley, report that SCRMP's parent organization in Washington, D. C., HEW's Regional Medical Programs Service, has proposed an allotment of \$1,231,761 for the SCRMP operation during FY-74. Of the total allotment \$650,842 has been received to operate activities through Dec. 31, 1973, and plans approved at the Advisory Group's meeting are being submitted to Washington for utilization of the balance of the allotment during the period Jan. — June, 1974, Dr. Moseley said.

In connection with the increased funding, the Advisory Group recommended that additional projects be planned relating to primary health care, health manpower development and regionalization of facilities. It was emphasized that stress be placed on activities connected with developing early diagnosis, preventive and ambulatory health care. Also, improve methods for local planning to increase availability and quality of services for chronic and acute illness, especially in the area of improved emergency medical services, chronic kidney disease and hypertension. These are to be carried out as well as regionalization of activities previously supported by SCRMP in areas of heart, cancer, vascular and related diseases.

Located at the Medical University of S. C., the SCRMP operates under the guidance and supervision of the Regional Advisory Group and its committees. Current Advisory Group officers are: Dr. Louis D. Wright, Jr., Florence, chairman; William L. Yates, Columbia, co-chairman; Dr. William A. Klauber, Greenwood, vice-chairman; and Dr. Vince Moseley, Charleston, secretary.

Current SCRMP activities underway and those activities approved for future funding include (shown are project title, sponsor, director's name and brief summary):

**EASTERN PEE DEE HOSPITAL  
TRAINING PROGRAM** — Marion County Memorial Hospital, David G. Askins, Sr., Marion, to operate a program for hospital orientation training, refresher training and other health manpower development in four community hospitals. Vocational

schools, TEC centers and colleges in the area will participate in these programs.

**AREA WIDE SOCIAL SERVICES IN COMMUNITY HOSPITALS** — Health Planning Region, The Tuomey Hospital, Sumter, Ralph M. Abercrombie, Jr., to provide social services functions in five hospitals in a five-county area and to upgrade patient referral and care by all institutions and agencies.

**MOBILE HEALTH UNIT FOR WILLIAMSBURG COUNTY** — Williamsburg Memorial Hospital, Dr. James Connally, Kingstree, to provide a mobile health facility and health team for improved health care and referral services for the rural poor in Williamsburg County.

**PERINATAL CENTER** — Medical University of S. C., Dr. Abner H. Levkoff, Charleston, to provide a model center for providing specialized care for high risk pregnancies and neonatal cases.

**PROGRAM FOR IMPROVED DIABETIC CARE** — Medical University of S. C., Dr. John A. Colwell, Charleston, to establish an education center for diabetics which will train patients in self medication control, diet, personal hygiene and early recognition of complications.

**SHARED HEALTH MANPOWER DEVELOPMENT PROGRAMS** — Self Memorial Hospital, Greenwood, Kenneth Flinchum, to provide a shared manpower development program through varied educational methods for five hospitals in the six-county district. Nursing home programs will be included.

**ADVANCED TRAINING FOR EMERGENCY MEDICAL TECHNICIANS** — South Carolina Hospital Association, William L. Yates, Columbia, to initiate programs for advanced training of emergency medical technicians and present courses at four locations in the state.

**EMERGENCY MEDICAL SERVICE PROVIDER CONFERENCE** — Medical University of S. C., Charleston, Dr. Lawrence D. Hanback, Jr., a conference of emergency medical service provider organizations and institutions to develop statewide EMS action plan.

**PLANNING FOR PROFESSIONAL STANDARDS REVIEW ORGANIZATION** — S. C. Medical Care Foundation, Dr. Kenneth Owens, Aiken, to determine the most effective approach for S. C. in quality assurance of health care as required under terms of Public Law 92-603.

**PILOT PROJECT—STROKE CLUB** — Charles Webb Rehabilitation Center, Charleston, Forrest H. Norvell, to provide assistance and personal experience in operation of stroke clubs throughout the state for training the families of stroke victims as well as the victims themselves.

**FAMILY PRACTICE CONFERENCE** — Division of Continuing Education, Medical University of S. C., Charleston, Dr. Vince Moseley, to continue intensive manpower development courses designed to improve delivery of ambulatory care by the primary physician.

**STATE HEALTH MANAGEMENT INFORMATION SYSTEM** — S. C. Governor's Office (Health Affairs), Robert A. Johnson, to provide an integrated system on the funding resources and active programs in health and health-related activities in South Carolina.

**STATE AREAWIDE HEALTH PLANNING SUPPORT**—Comprehensive Health Planning Agencies, directors to be named for specific studies or surveys to implement state or area health planning services.

**AREA MANPOWER DEVELOPMENT & UTILIZATION** — Community hospitals and directors to be designated, to assist groups of hospitals in providing resources for shared employee in-service training.

**COASTAL HEART—HYPERTENSION SURVEY** — Medical University of S. C., Charleston, Dr. S. H. Sandifer, to conduct a follow-up survey of a large scale study conducted in the Charleston area in 1960 to determine factors prominent in the genesis of coronary artery disease.

**GREENWOOD AREA REGIONALIZATION OF CORONARY CARE** — Self Memorial Hospital, Greenwood, Kenneth Flinchum, provides linkages for EKG cor-



onary monitoring between four hospitals in the six-county Upper Savannah District.

**RENAL DISEASE TRAINING AND TRANSPLANT PROGRAM**—Medical University of S. C., Charleston, Dr. Arthur V. Williams, to expand statewide program for patient care in renal disease, with emphasis on patient training in home dialysis and support of renal transplant services.

**STATEWIDE LABORATORY PERSONNEL REFRESHER TRAINING** — S. C. Department of Health & Environmental Control, Columbia, Dr. Arthur DiSalvo, to establish a statewide program to up-grade the diagnostic acumen of lab technicians in S. C.

**CAROLINAS HOSPITAL ENGINEERING SUPPORT SERVICE** — Medical University of S. C., Charleston, Thomas S. Hargest, to train engineers and technicians to perform bio-engineering services and then place trainees in area team assignments covering groups of institutions.

**HEALTH COMMUNICATIONS NETWORK FOR HEALTH WORKERS AND PROFESSIONALS** — Division of Continuing Education, Medical University of S. C., Charleston, Dr. Vince Moseley, to improve and expand local training for the health professions and occupations in communities throughout the state through hospital telephone-television network programs and through circulating library services in audiovisual teaching aids.

**STATEWIDE EDUCATION PROGRAM IN NUCLEAR MEDICINE** — Self Memorial Hospital, Greenwood, Dr. William A. Klauber, to provide an on-going Education Program in Nuclear Medicine Techniques for physicians, nurses and allied health personnel.

**IMPLEMENTATION PROGRAM OF HEALTH AND STROKE PROJECTS IN S. C.** — S. C. Heart Association, Mort Rosenberg, Columbia, to coordinate the several projects planned by the S. C. Heart Association Task Force with all major organizations, institutions and agencies

working in the area of heart disease and stroke control in S. C.

**CHILDREN'S CARDIO—RESPIRATORY DISEASE PROJECTS** — Medical University of S. C., Charleston, Dr. Arno Hohn, to expand and coordinate detection, diagnostic and treatment services throughout the state in children's heart and respiratory disease. Also, update cystic fibrosis detection through expansion of cooperative service programs.

**CATAWBA COMPREHENSIVE HEALTH PLANNING DATA BASE** — Catawba Regional Planning Council, Rock Hill, director to be named, to provide for systematic collection of data as it relates to the general and mental health needs of the 36,543 persons age 10-18 in York, Lancaster, Chester and Union counties. Data will enable more effective planning of programs and services and provide for improved early detection and treatment services.

**DEVELOPMENT OF EDUCATIONAL COMPONENTS—EMERGENCY MEDICAL SERVICES** — McLeod Memorial Hospital and Florence County Ambulance Commission, Florence, director to be named, to upgrade and expand the educational opportunities available to the emergency medical technician in the Pee Dee area.

**COMPUTERIZED CARE FOR PATIENTS WITH RENAL DISEASE AND HYPERTENSION** — Medical University of S. C., Charleston, director to be named, to share computer based programs and consultants available through the Dept. of Family Practice, MUSC, with hospitals throughout the state to assist in care of patients with renal disease and hypertension.

**REGIONAL QUALITY ASSURANCE PROGRAM** — Self Memorial Hospital, Greenwood, director to be named, to plan and develop a utilization review and medical audit plan for the Upper Savannah District involving four small hospitals and the largest regional hospital in providing an effective and consistent audit for all.



**HOSPITAL MEDICAL CARE EVALUATION PROGRAM** — S. C. Hospital Association, Columbia, director to be named, to assist hospitals in S. C. to meet accreditation standards.

**SCREENING FOR KIDNEY DISEASE AND HYPERTENSION IN CHILDREN** — Medical University of S. C., Charleston, Dr. Charles P. Darby, to discover kidney disease at an early age and stage, and to prevent chronic end-stage kidney disease and hypertension.

**COMMUNITY HYPERTENSION CONTROL PROGRAM** — S. C. Heart Association, Columbia, director to be named, to improve patient care in hypertension through increased services and targeting of population groups not previously reached.

**REGIONAL HYPERTENSION CONTROL PROGRAM** — S. C. Dept. of Health and Environmental Control, Columbia, director to be named, to implement a state-wide hypertension control program.

**INTENSIVE CLINICAL COURSE IN NEONATAL CARE—PLANNING AND PILOT PHASES** — Medical University of S. C., Charleston, director to be named, to

establish an intensive clinical course in nursing care of newborn infants at risk and improve other aspects of nursing care.

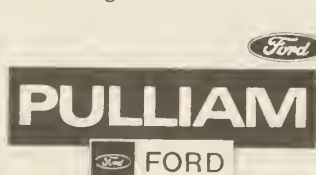
**QUEING METHODS TO IMPROVE AMBULATORY CLINIC CARE** — Medical University of S. C., Charleston, Dr. C. F. Lam, Dr. M. D. Miller and Dr. Sara Schuh, apply mathematical calculations to the problems of patients and supporting services to an out-patient clinic of the Dept. of Pediatrics, MUSC, in order to increase numbers of individuals served.

**RADIATION DOSIMETRY ONCOLOGY PROJECT** — Medical University of S. C., Charleston, Division of Basic Radiation Sciences and Radiotherapy, to establish standards for tumor patient care by radiation therapy through cooperative arrangements and regional sharing of staff resources and facilities throughout the state.

**RETRAINING OF MEDICAL LABORATORY PERSONNEL** — S. C. Society for Medical Technology, Columbia, director to be named, to upgrade basic skills and knowledge in all areas of the clinical laboratory and establish and maintain necessary standards.

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E. Kenneth Aycock, M.D., M.P.H.  
Commissioner

## SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENT CONTROL

### TREATMENT OF EXOTIC PARASITIC DISEASES

Several drugs which are effective in the treatment of some of the exotic parasitic diseases have been approved by the FDA for investigational use only. Those available directly to the physician from the Parasitic Disease Drug Service of the Center for Disease Control are listed below:

**PENTAMIDINE ISETHIONATE:** Effective in treatment of *Pneumocystis carinii* pneumonia and the early stages of sleeping sickness due to *Trypanosoma gambiense* (see also Mel B and Suramin). The latter disease is endemic to certain areas of Africa.

**NICLOSAMIDE (Yomesan):** Indicated for cestode infections due to *Taenia saginata*, *Hymenolepis nana*, *Diphyllobothrium latum*, and *Dipylidium caninum* (in man). The drug is relatively nontoxic and can be given to ambulatory patients.

**SODIUM ANTIMONY GLUCONATE (Pentostam):** Used in treatment of visceral leishmaniasis (kala azar), cutaneous leishmaniasis and mucocutaneous leishmaniasis (espundia).

**MELARSPOROL (Mel B, Arsobal):** Used in treatment of African trypanosomiasis due to *T. gambiense* and *T. rhodesiense* (see also pentamidine isethionate and suramin). This drug is indicated in CNS involvement or resistance to other trypanosomicidal drugs. Its main advantage over other agents is its high therapeutic index.

**SURAMIN (Antrypol):** Available for the treatment of the early stages of sleeping sickness due to *T. rhodesiense* (see also pentamidine isethionate and melarsoprol) and for the treatment of oncocerciasis, a disease of the skin and eyes found in persons who have lived in endemic areas of W. Africa, Mexico, Central America and northern South America.

**DEHYDROMETINE** (for intramuscular or subcutaneous use): Available for the treatment of severe intestinal or extra-intestinal amebiasis, i.e., liver abscess. This drug is less toxic than emetine and is equally effective.

**SODIUM ANTIMONY DIMERCAPTO-SUCCINATE (Astiban):** Used in treatment of schistosomiasis caused by *Schistosoma mansoni* and *S. haematobium* (see also niridazole). Main advantages over other antimonials is that it can usually be given on an ambulatory basis over a short period of time. In the United States, schistosomiasis is most commonly diagnosed in people who have lived in rural areas of Puerto Rico.

**NIRIDAZOLE (Ambilhar),** a nitrothiazol derivative: The drug of choice for treatment of *S. haematobium* and *Dracunculus medinensis* (Guinea worm) infections and an alternative drug for *S. mansoni* and *S. japonicum* infections. This non-antimonial drug can be given by mouth over a short period of time, but the FDA requires hospitalization of patients during therapy.

*BAYER 2502*, a nitrofurfurylidene derivative: Available for treatment of Chagas' disease. This disease is sporadic in the United States.

*BITHIONOL, N. F.*: Used in treatment of the disease caused by the lung fluke, *Paragonimus westermani*. In the United States, paragonimiasis may be diagnosed in persons who have resided or traveled in China, South Korea, Japan, Southeast Asia, West Africa, or northwestern South America.

In addition to these investigational drugs, parenteral chloroquine and parenteral quinine are available for the treatment of pernicious *Plasmodium falciparum*

malaria. Chloroquine is indicated when the parasite strain is sensitive to this drug; quinine is indicated when the strain is resistant to chloroquine. No investigational protocol is necessary for these two drugs, but they should be requested from the Parasitic Disease Drug Service, *ONLY IN AN EMERGENCY*, for they are available commercially.

Request for a drug or drug information should be directed to the Parasitic Disease Drug Service.

#### TELEPHONE NUMBERS:

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Nights, Weekends and Holidays:  
(404) 633-2176

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## DEATHS

### DR. B. S. BURNET

Dr. Burgh Smith Burnet of 135 Tradd Street, Charleston, died August 11. He was a graduate of the Medical University of South Carolina and a member of the American College of Surgeons, and the Academy of Orthopedic Surgeons.

### DR. J. C. JOSEY

Dr. Julian Cleon Josey, 71, of 2700 Country Club Road, died August 12 at his home. A graduate of the Medical College of Georgia, Dr. Josey was president of the Spartanburg County Medical Society in 1955 and was Doctor of the Year in 1956.

### DR. J. M. DAVIS

Dr. J. McMahon Davis died August 23 in Richland Memorial Hospital after a short illness. Dr. Davis, a graduate of the Medical University of South Carolina in 1925, was a urologist with the Veterans Administration Hospital from 1946 until his retirement in 1970, when he became a urologist with the South Carolina State Hospital.

### DR. J. S. PALMER

Dr. Joe Sam Palmer, retired physician of 5 East Battery, Charleston, formerly of Allendale, died on August 31 at his residence. He had practiced medicine for 40 years in Allendale and was a member of the South Carolina Medical Association and the Charleston County Medical Association.

### DR. ELEANOR W. TOWNSEND

Dr. Eleanor Winthrop Townsend of Brevard died September 12 in her residence. Dr. Townsend was a graduate of the Medical University of South Carolina and served that institution as an instructor and associate in clinical pathology. She was a member of the South Carolina Medical Association, American Medical Association, Southern Medical Association and the American Medical Women's Association.

### DR. C. A. MOBLEY

Dr. Charles Arden Mobley, 85, died September 14 in Orangeburg Regional Hospital. A graduate of the Medical Uni-



versity of South Carolina, Dr. Mobley started the Orangeburg Hospital in 1919. He was a charter member of the American Board of Surgery and was a fellow of the American College of Surgeons.

**DR. M. J. BOGGS, JR.**

Dr. Mauldin Joe Boggs, Jr., 60, of Abbeville died September 14. Dr. Boggs graduated from the Medical University of South Carolina and was public health officer for Greenwood, Abbeville, and McCormick counties from 1939 to 1950. He was associated in the practice of medicine with Dr. W. L. Pressley in Due West from 1943 to 1946, at which time he located in Abbeville.

**DR. J. L. ANDERSON**

Dr. James Leland Anderson, Sr., 90, retired Greenville physician died October 21. He was a graduate of the University of Maryland School of Medicine and began practice in Greenville in 1910. He served as president of the Greenville County Medical Society in 1919 and was a past president of the Fourth District Medical Society. He was a member of the American Medical Association and the Academy of General Practice.

**Industrial Medicine**

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### **COURSE IN LARYNGOLOGY AND BRONCHOSOPHAGOLOGY**

The Department of Otolaryngology, Abraham Lincoln School of Medicine of the University of Illinois and the Eye and Ear Infirmary of the University of Illinois Hospital, will conduct a continuing education course in Laryngology and Bronchosophagology March 18 to 23, 1974. The course is limited to twenty physicians and will be under the direction of Paul H. Holinger, M.D. It will be held largely at the Eye and Ear Infirmary, 1855 West Taylor Street, Chicago, and will include visits to a number of other Chicago hospitals. Instruction will be provided by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested physicians will please write directly to the Department of Otolaryngology, Eye and Ear Infirmary, 1855 West Taylor Street, Chicago, Illinois 60612.

## **CLASSIFIED ADVERTISEMENTS**

### **PHYSICIAN WANTED**

ASSOCIATE DIRECTOR OF MEDEX. Medical University of South Carolina—Immediate opening for innovative and highly motivated physician for the position of associate director of MEDEX in the Department of Family Practice. Send curriculum vitae to Arthur C. Hutson, Jr., M.D. Department of Family Practice, MUSC, Charleston, S. C. 29401.

GENERAL PRACTITIONER FAMILY PRACTICE. Contractual arrangements for \$40,000 guarantee available on two-year basis for private practice. Seventy bed, new acute care general hospital located in Dillon accredited by Joint Commission. Area population 30,000. Estimated yearly gross \$60,000. Four GPs at present. Dillon is the county seat, with a population of 7,000 located in north east section of state. Easy access to Myrtle Beach and other recreational activities. Balanced economy with agriculture and industry. Contact: John A. Braeckel, St. Eugene Community Hospital, Dillon, S. C. 29536.

INTERNIST for partnership in well-established general family practice. Space available in existing building. Estimated yearly gross \$60,000. No internist at present, four GPs. Area population 30,000. Dillon is county seat of 7,000 (area population 30,000) located in north east section of state with access to Myrtle Beach. Balanced economy with agriculture and industry. Contact: John A. Braeckel, St. Eugene Community Hospital, Dillon, S. C. 29536.

PEDIATRICIAN with contractual arrangements for \$40,000 guarantee available on two-year basis for private practice. Seventy bed new acute care general hospital located in Dillon. Ob-Gyn in practice in Dillon. Arrangements can be made to build, lease, or rent office space. Estimated yearly gross \$60,000. Dillon is county seat of 7,000 (area population 30,000) located in north east section of state with easy access to Myrtle Beach. Balanced economy with agriculture and industry. Contact: John A. Braeckel, St. Eugene Community Hospital, Dillon, S. C. 29536.

WANTED—Self Memorial Hospital needs 2 internists, 2 pediatricians, 4 general practitioners. Interested physicians contact W. A. Klauber, M.D., Chairman, Physician Procurement, Self Memorial Hospital, Greenwood, S. C. 29646.

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### **MEETING — March 15 and 16, 1974**

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Inquiries to: Charles B. Hammond, M.D.  
P. O. Box 3143  
Duke University Medical Center  
Durham, N. C. 27710

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## PRESCRIBING INFORMATION

### Antiminth (pyrantel pamoate) Oral Suspension

Actions. Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

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Indications. For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

Warnings. *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

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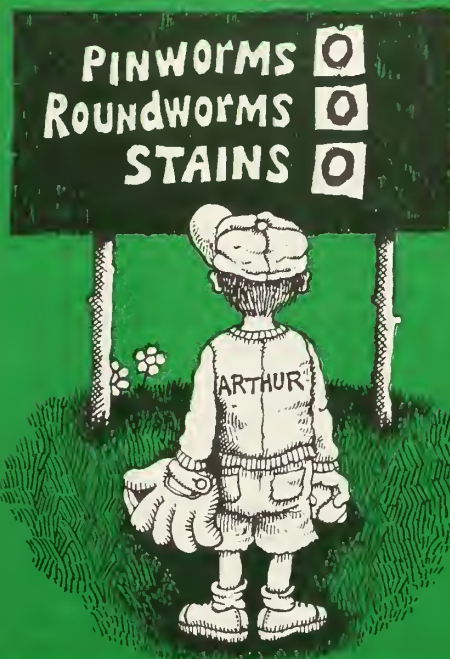
Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day; and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices. Because of limited data on repeated doses, no recommendations can be made.

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# Rondomycin®

## (methacycline HCl)

**CONTRAINDICATIONS:** Hypersensitivity to any of the tetracyclines  
**WARNINGS:** Tetracycline usage during tooth development (last half of pregnancy to eight years) may cause permanent tooth discoloration (yellow-gray-brown), which is more common during long-term use but has occurred after repeated short-term courses. Enamel hypoplasia has also been reported. **Tetracyclines should not be used in this age group unless other drugs are not likely to be effective or are contraindicated.**  
**Usage in pregnancy.** (See above **WARNINGS** about use during tooth development.)  
 Animal studies indicate that tetracyclines cross the placenta and can be toxic to the developing fetus (often related to retardation of skeletal development). Embryotoxicity has also been noted in animals treated early in pregnancy.  
**Usage in newborns, infants, and children.** (See above **WARNINGS** about use during tooth development.)

All tetracyclines form a stable calcium complex in any bone-forming tissue. A decrease in fibula growth rate observed in premature infants given oral tetracycline 25 mg/kg every 6 hours was reversible when drug was discontinued.  
 Tetracyclines are present in milk of lactating women taking tetracyclines.  
 To avoid excess systemic accumulation and liver toxicity in patients with impaired renal function, reduce usual total dosage and, if therapy is prolonged, consider serum level determinations of drug. The anti-anabolic action of tetracyclines may increase BUN. While not a problem in normal renal function, in patients with significantly impaired function, higher tetracycline serum levels may lead to azotemia, hyperphosphatemia, and acidosis.  
 Photosensitivity manifested by exaggerated sunburn reaction has occurred with tetracyclines. Patients apt to be exposed to direct sunlight or ultraviolet light should be so advised, and treatment should be discontinued at first evidence of skin erythema.

**PRECAUTIONS:** If superinfection occurs due to overgrowth of nonsusceptible organisms, including fungi, discontinue antibiotic and start appropriate therapy.  
 In venereal disease when coexistent syphilis is suspected, perform darkfield examination before therapy, and serologically test for syphilis monthly for at least four months.  
 Tetracyclines have been shown to depress plasma prothrombin activity; patients on anticoagulant therapy may require downward adjustment of their anticoagulant dosage.  
 In long-term therapy, perform periodic organ system evaluations (including blood, renal, hepatic).  
 Treat all Group A beta-hemolytic streptococcal infections for at least 10 days.  
 Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, avoid giving tetracycline with penicillin.

**ADVERSE REACTIONS: Gastrointestinal** (oral and parenteral forms) anorexia, nausea, vomiting, diarrhea, glossitis, dysphagia, enterocolitis, inflammatory lesions (with monilial overgrowth) in the anogenital region.  
**Skin:** maculopapular and erythematous rashes, exfoliative dermatitis (uncommon). Photosensitivity is discussed above (See **WARNINGS**).  
**Renal toxicity:** rise in BUN, apparently dose related (See **WARNINGS**).  
**Hypersensitivity:** urticaria, angioneurotic edema, anaphylaxis, anaphylactoid purpura, pericarditis, exacerbation of systemic lupus erythematosus.  
 Bulging fontanels, reported in young infants after full therapeutic dosage, have disappeared rapidly when drug was discontinued.

**Blood:** hemolytic anemia, thrombocytopenia, neutropenia, eosinophilia.  
 Over prolonged periods, tetracyclines have been reported to produce brown-black microscopic discoloration of thyroid glands; no abnormalities of thyroid function studies are known to occur.  
**USUAL DOSAGE: Adults**—600 mg daily, divided into two or four equally spaced doses. More severe infections: an initial dose of 300 mg followed by 150 mg every six hours or 300 mg every 12 hours. Gonorrhea: In uncomplicated gonorrhea, when penicillin is contraindicated, Rondomycin (methacycline HCl) may be used for treating both males and females in the following clinical dosage schedule: 900 mg initially, followed by 300 mg q.i.d. for a total of 5.4 grams.

For treatment of syphilis, when penicillin is contraindicated, a total of 18 to 24 grams of 'Rondomycin' (methacycline HCl) in equally divided doses over a period of 10-15 days should be given. Close follow-up including laboratory tests, is recommended.  
 Eaton Agent pneumonia: 900 mg daily for six days.  
**Children**—3 to 6 mg/lb/day divided into two to four equally spaced doses.

Therapy should be continued for at least 24-48 hours after symptoms and fever have subsided.  
**Concomitant therapy:** Antacids containing aluminum, calcium or magnesium impair absorption and are contraindicated. Food and some dairy products also interfere. Give drug one hour before or two hours after meals. Pediatric oral dosage forms should not be given with milk formulas and should be given at least one hour prior to feeding.  
 In patients with renal impairment (see **WARNINGS**), total dosage should be decreased by reducing recommended individual doses or by extending time intervals between doses.

In streptococcal infections, a therapeutic dose should be given for at least 10 days.  
**SUPPLIED:** Rondomycin (methacycline HCl) 150 mg and 300 mg capsules, syrup containing 75 mg/5 cc methacycline HCl.

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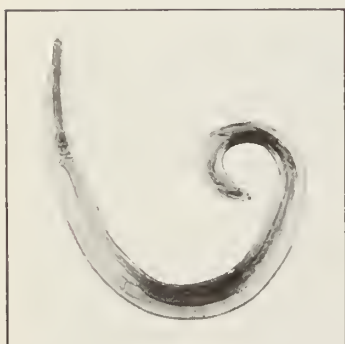
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# Pinworm therapy is often a family affair



**Contraindications:** History of hypersensitivity to thiabendazole.

**Warnings:** If hypersensitivity reactions occur, drug should be discontinued immediately and not resumed. Rarely, erythema multiforme has been associated with thiabendazole therapy; in severe cases (Stevens-Johnson syndrome), fatalities have occurred. Because CNS side effects may occur quite frequently, activities requiring mental alertness should be avoided. Safe use in pregnancy or lactation has not been established.

**Precautions:** Ideally, supportive therapy is indicated for anemic, dehydrated, or malnourished patients prior to initiation of anthelmintic therapy. In presence of hepatic or renal dysfunction,

patients should be carefully monitored.

**Adverse Reactions:** Most frequently encountered are anorexia, nausea, vomiting, and dizziness. Less frequently, diarrhea, epigastric distress, pruritus, weariness, drowsiness, giddiness, and headache have occurred. Rarely, tinnitus, hyperirritability, numbness, abnormal sensation in eyes, blurring of vision, xanthopsia; hypotension, collapse; enuresis; transient rise in cephalin flocculation and SGOT; perianal rash, cholestasis and parenchymal liver damage; hyperglycemia; transient leukopenia; malodor of the urine, crystalluria, hematuria; appearance of live *Ascaris* in the mouth and nose. Hypersensitivity reactions



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Weight-dose chart:

WEIGHT (lb)	EACH DOSE (g)	TABLETS
25	0.25	1/2
50	0.5	1
75	0.75	1 1/2
100	1.0	2
125	1.25	2 1/2
150 & over	1.5	3

The regimen for each indication follows:

INDICATION	REGIMEN	COMMENTS
Pinworm disease	Two doses per day for 1 day. Repeat in 7 days.  This regimen is designed to reduce the risk of reinfection.	If this is not practical, give 2 doses per day for 2 successive days.
Threadworm,* large roundworm,* hookworm,* and whipworm* disease	Two doses per day for 2 successive days.	A single dose of 20 mg/lb or 50 mg/kg may be employed as an alternative schedule, but a higher incidence of side effects should be expected.
Creeping eruption	Two doses per day for 2 successive days.	If active lesions are still present 2 days after completion of therapy, a second course is recommended.
Symptoms of trichinosis* during the invasive phase of the disease	Two doses per day for 2 to 4 successive days according to the response of the patient.	The optimal dosage for the treatment of trichinosis has not been established.

\*Clinical experience with thiabendazole for treatment of each of these conditions in children weighing less than 30 lb has been limited.

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'The Chronic Neurotic and the Family Practitioner'

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**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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